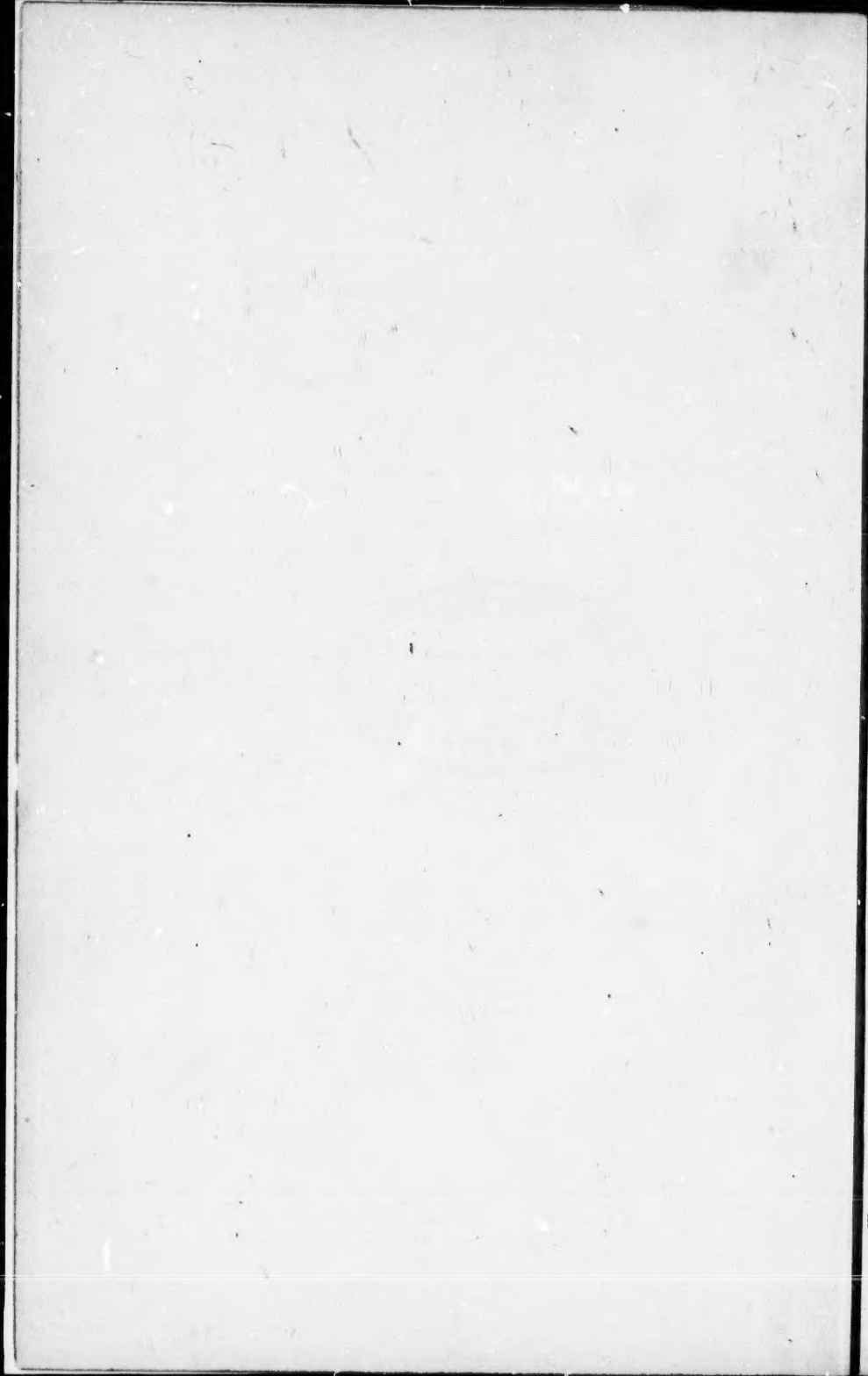
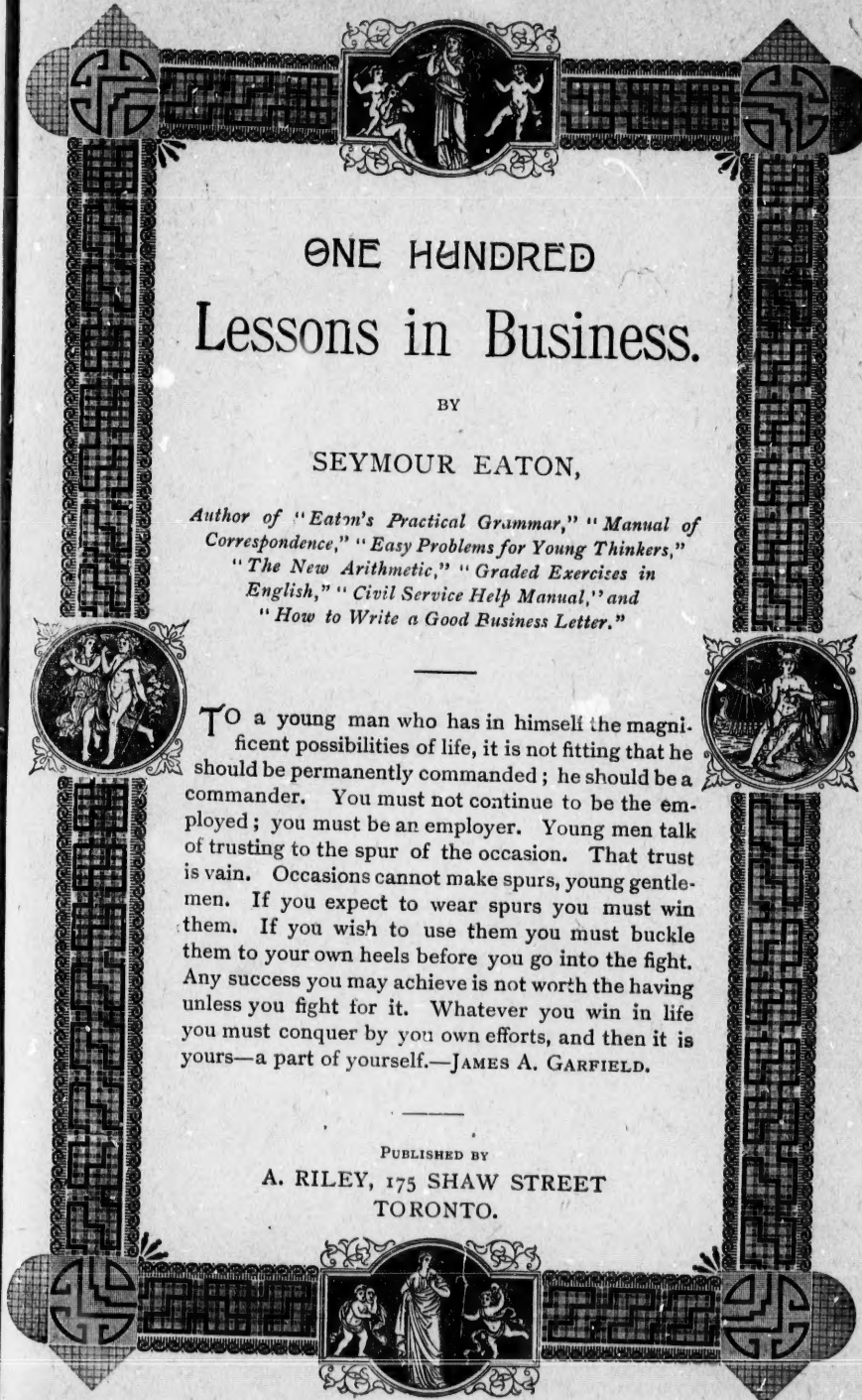






ONE HUNDRED Lessons in Business.

BY

SEYMOUR EATON,

Author of "Eaton's Practical Grammar," "Manual of Correspondence," "Easy Problems for Young Thinkers," "The New Arithmetic," "Graded Exercises in English," "Civil Service Help Manual," and "How to Write a Good Business Letter."



TO a young man who has in himself the magnificent possibilities of life, it is not fitting that he should be permanently commanded; he should be a commander. You must not continue to be the employed; you must be an employer. Young men talk of trusting to the spur of the occasion. That trust is vain. Occasions cannot make spurs, young gentlemen. If you expect to wear spurs you must win them. If you wish to use them you must buckle them to your own heels before you go into the fight. Any success you may achieve is not worth the having unless you fight for it. Whatever you win in life you must conquer by your own efforts, and then it is yours—a part of yourself.—JAMES A. GARFIELD.

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from H.P. Gundy

Gift for LP

LESSON 1.

Jock, when ye hae naething else to do, ye may be aye sticking in a tree ; it will be growing. Jock, when ye're sleeping.—SIR WALTER SCOTT.

Sound Business Advice.

"I WOULD name, first a lack of *special preparation* on the part of young men for a special occupation or profession. Most boys get a fair *general* education, and when that is done, take hold of the thing which promises the most *immediate* return for their labor, not stopping to look forward to the end, or to consult their adaptability to the business or profession. Some look only to see what standing it will give them in society ; others consider if it will enable them to dress in fine clothing and make a good appearance. Next stands the mistake of young men in being in too much of a hurry to spend money as fast as others, a desire to be considered in better circumstances than they really are, and a pressure to get ahead faster than they *learn* their business. In this way one often climbs a ladder before the foundation is made secure ; and afterward, when he has to take the responsibility, does not know *all* his business, and has to intrust a part of it to others, and does not know whether they are doing it right or not. By and by, when he thinks he is safe and beyond danger, the foundation corner, which he trusted to some one else, has given way, and he is overthrown. He needs to know his *whole* business, so that he can tell when it is done right. Another great mistake is, that, when a young man sees his name on a sign, he is apt to think that his fortune is made, and so begins to spend money as if he had already got beyond any chance of failure. Another common mistake is, that men, old as well as young, are too ready to use their credit, not realizing that the goods bought on credit are not theirs, and that a pay-day is coming. When they find their notes coming due, and have not the money to pay them, they are tempted to sell goods without a profit, for the sake of getting the money, or a note which they can turn into money. Just the moment a man is obliged to do that, he is not master of his own business ; and, as a rule, it is only a matter of a little time when he will have to go down. Let a young man *fear God, be industrious, know his business, spend a little less than he earns*, and success is sure."

NOTE.—The above advice, from a Brooklyn man of long experience in business life, first appeared in "Successful men of To-Day," a book published by Funk & Wagnalls, 10 and 12 Dey Street, New York.

Feb 71
From H.P. Gundy
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LESSON 2.

Let every man be occupied, and occupied in the highest employment of which his nature is capable, and die with the consciousness that he has done his best.—SYDNEY SMITH.

Safe Business Rules.

Be strict in keeping engagements.

Do nothing carelessly or in a hurry.

Employ nobody to do what you can easily do yourself.

Keep your plans and business to yourself, yet be candid with all.

Let dealings with strangers be carefully considered, and let tried friendship be duly appreciated.

Never be afraid to say **no**, and always be prompt to acknowledge and rectify a wrong.

Because a friend is polite, do not think that his time is valueless.

Be clear and explicit in bargains, and put everything in writing.

Always be at the head of your own business.

Be cautious how you become security for any person.

Be economical in expenditure, always living within your income.

Constantly examine your books, and see through all affairs as far as care and attention will enable you.

Prefer short credit to long, cash to credit, either in buying or selling, and small profits with little risk, to the chance of better gains with more hazards.

LESSON 3.

Arise, therefore, and be doing, and the Lord be with thee.—Not slothful in business, fervent in spirit, serving the Lord.—Commit thy way unto the Lord, and he shall direct thy paths.—Whatsoever thy hand find to do, do it with thy might.—BIBLE.

What Successful Men Say of Success.

Success is doing your best every day. It is making the most of your abilities and opportunities. Each person should ask himself, "How does what I am compare with what I might be?" Christ commended Mary of Bethany by saying, "*She hath done what she could.*"

Dr. Dexter, a prominent journalist, gives these three secrets of success: "First, piety, to get all and keep all in position; second, patience, to master all details; third, perseverance, to carry all through."

Ex-Governor Dingley, of Maine, gives these essentials: "First, character; second, industry; third, perseverance."

John Wanamaker, America's greatest merchant, gives four stages to success: "Close application; integrity; attention to details; discreet advertising."

President White of Cornell University, gives these conditions: "First, soundness of mind and heart; second, clear judgment; third, fair knowledge of men; fourth, great devotion to some one purpose of study, but with breadth of view."

Dr. J. H. Vincent's secret of success is given in a single sentence: "An entire surrender of impulse and inclination to the demands of duty, as expressed and made possible in the life of Christ."

Ralph Waldo Emerson put his opinion as follows: "The art of getting rich consists not in industry, much less in saving; but in a better order, in *timeliness*, in being at the right spot."

Hon. Joseph Medill, a Chicago journalist, gives the following as elements of success: "Sobriety, avoidance of intoxicating drinks and all forms of gambling; a virtuous life; fidelity to employers; close study; hard work; honesty."

Gen. John A. Logan gave the following advice: "Labor unceasingly, and do not try to do too many things, instead of sticking to the thing you know most about."

Jacob Estey, of organ fame, gives these secrets of success: "Economy; avoid the use of tobacco and all stimulants, and bad company."

Dr. Lyman Abbott, of the *Christian Union*, gives this advice: "Study how to do the most good, and let the pay take care of itself."

Noah Porter, D.D., gives this advice: "Rely upon your own strength of body and soul. Take for your star self-reliance, faith, honesty and industry. Don't take too much advice—keep at the helm, and steer your own ship, and remember that the great art of commanding is to take a fair share of the work. Fire above the mark you intend to hit. Energy, invincible determination, with a right motive, are the levers that move the world."

LESSON 4.

It is worth a thousand pounds a year to have the habit of looking on the bright side of things.—DR. SAMUEL JOHNSON.

What Successful Men Say of Failure.

Wilbur F. Crafts, author of "Successful Men of To-Day," a book which every young man should read, sent the following question to a large number of prominent and representative Americans:

What, in your observation, have been the chief causes of the numerous failures in life of business and professional men?

We take the liberty of reproducing below abridged extracts from the replies received:—

Want of will; over smartness; unwilling to labor and wait.—Lack of principle, of fixed purpose, of perseverance.—Acting from policy rather than from Christian principle.—Haste to get rich.—Want of punctuality, honesty and truth.—Incorrect views of the great end and aim of life.—Lack of the power of practical adaptation.—Tricky conduct, cheating, idleness, shirking hard work.—Entering in operations outside of regular business.—A desire to take things easy.—Want of thorough knowledge of the business; lack of application and undue haste to accumulate.—Living beyond one's means, and intemperance.—Going into responsible business too young.—Lack of enterprise.—Bad habits; insufficient business training; speculation; passion to be rich without work.—Bad company; bad habits; dishonesty in little things as well as great.—Fast living: mental, spiritual and bodily.—Lack of attention to details.—Lack of energy; failure to improve every moment; lack of strict integrity.—Having no definite objects in life; drifting.—Want of promptness, and unwilling to achieve success by earning it in the old-fashioned way.—Having a proud and selfish aim.—Lack of moral strength.—Want of thoroughness of preparation; want of fixedness of purpose; want of faith in the inevitable triumph of right and truth.—The combined spirit of laziness and self-conceit that makes a man unwilling to do anything unless he can choose just what he will do.—Waiting for opportunities.—Unwillingness to work persistently.—A want of high moral and religious character.—Wasting efforts on illegitimate pursuits.—Absence of principle, leading to dishonesty and dissipation.—Disposition to float down stream being easier than to row up.—Lack of appreciation of the opportunities of life.—Want of truthfulness in business, especially in buying and selling.—Unsteadiness of purpose and lack of knowledge.—Want of a steady and definite purpose.—Mistakes in the choice of employment.—Instability, and lack of persistent application and industry.—Lack of appreciation of the value of time.—Too many irons in the fire.—Overtrading and lack of judgment in giving credit.—Unwillingness to begin at the foot of the ladder and work up.

LESSON 5.

The heights by great men reached and kept,
Were not attained by sudden flight;
But they, while their companions slept,
Were toiling upward in the night.—LONGFELLOW.

Rapid Addition Made Easy.

Every business man has more or less to do with figures. It is very important that he should be *accurate* and *rapid* in **addition**. One small error in footing up an account may throw the total out several hundred dollars. Let *accuracy* be the first consideration, then *drill, drill, drill*, until you can add rapidly. Rapid adders are usually the most accurate. Note the following suggestions:—

Write the numbers in vertical lines. Irregularity in the placing of figures is the cause of many errors.

Think of results, and not of the numbers themselves. Thus, do not say, 4 and 5 are 9, and 6 are 15, and 7 are 22, etc.; but, 9, 15, 22, etc.

Make combinations of 10, or other numbers, as often as possible, and add them as single numbers. Thus, in adding 9 34 73 214 9 54 82 123, say, 9, 16, 26, 33, 42, 51, 61, 67, taking each group, at a glance, as a single number. Where a figure is repeated several times, multiply instead of adding.

In adding horizontally, begin at the left, since the eye is more accustomed to moving from left to right than right to left.

In adding long columns, prove the work, by adding each column separately in the opposite direction, before adding the next column.

When numbers are in regular arithmetical order,—as 3, 4, 5, 6, 7, or 2, 4, 6, 8, 10, or 5, 10, 15, 20, etc.,—to find their sum, add the first and last, take half, and multiply by the number of numbers. The half-sum represents the middle or average number.

TEST EXERCISE:

NOTE.—Business men, and accountants, find it necessary to be able to add readily amounts when placed in a horizontal position, as well as when placed in a vertical position. In the following exercise, add both ways, and then prove the work by adding the results.

$$\begin{array}{r}
 \$246.00 + \$1024.60 + \$24.31 + \$3.72 + \$241.20 = **** * \\
 39.85 + 319.24 + 63.84 + 4.96 + 321.62 = **** * \\
 412.40 + 2108.50 + .03 + 2.12 + 421.23 = **** * \\
 31.60 + 316.42 + 2.41 + 3.24 + 312.15 = **** * \\
 **** * + **** * + **** * + **** * + **** * = **** *
 \end{array}$$

LESSON 6.

If the history of our citizens of wealth were written, we should find that fully three-fourths have risen from comparatively small beginnings to their present position.—HON. WILLIAM E. DODGE.

Business Fractions, and How to Handle them.

The Fractional arithmetic used in ordinary merchandizing is usually very simple. The boy who can tell what one-quarter of a pound of tea is worth when he knows the price of a pound, or who can find the cost of $2\frac{1}{2}$ yards of print at $12\frac{1}{2}$ cents a yard, has a fair start in the fractions of commercial arithmetic.

The following method of abbreviating the writing of *halves* and *fourths* is frequently made use of by business men. Thus, in writing the number of yards in each of several pieces of cloth, instead of writing $24\frac{1}{2}$, $27\frac{1}{4}$, 35, $26\frac{3}{4}$, write 24^2 , 27^1 , 35, 26^3 .

Example 1. Find the sum of $\frac{1}{2}$ and $\frac{1}{3}$.

$4 + 3 = 7$
 $4 \times 3 = 12$ } $= \frac{7}{12}$. Here there are two fractions, and the numerator is 1 in each case. To find their sum, add 4 and 3 for the numerator, and multiply them for the denominator. To find their difference, subtract 3 from 4 for the numerator, and multiply them for the denominator.

Example 2. Find the sum of $\frac{2}{3}$ and $\frac{4}{5}$.

$2 \times 5 = 10$
 $3 \times 4 = 12$ } $= 22 = \text{numerator.}$
 $3 \times 5 = 15 = \text{denominator.}$
 $\frac{2}{3} + \frac{4}{5} = \frac{22}{15} = 1\frac{7}{15} = \text{answer.}$

Here the numerators are greater than the denominators. 1. To find the sum of the fractions, multiply the numerator of the first by the denominator of the second, and the denominator of the first by the numerator of the second, and add the products for the numerator of the answer; multiply the denominators for the denominators of the answer. In subtraction, subtract, after multiplying, instead of adding.

In order that fractions may be added, they must have like denominators. Thus, before we can add $\frac{1}{2}$, $\frac{3}{4}$ and $\frac{5}{8}$, we must reduce $\frac{1}{2}$ and $\frac{3}{4}$ to *eighths*: $\frac{1}{2} = \frac{4}{8}$, and $\frac{3}{4} = \frac{6}{8}$; then $\frac{1}{2} + \frac{3}{4} + \frac{5}{8} = \frac{4}{8} + \frac{6}{8} + \frac{5}{8} = \frac{15}{8} = 1\frac{7}{8}$.

In adding mixed numbers, such as $247\frac{2}{3}$, $31\frac{1}{5}$, $18\frac{1}{2}$, add the fractions first, and to their sum add the sum of the whole numbers.

EXERCISES.

- | | | | |
|----------------------------------|----------------------------------|-----------------------------------|-------------------------------------|
| 1. $\frac{1}{2} + \frac{1}{3}$. | 5. $\frac{1}{2} + \frac{2}{3}$. | 9. $\frac{2}{3} - \frac{1}{2}$. | 13. $1\frac{1}{2} + 3\frac{1}{5}$. |
| 2. $\frac{1}{2} + \frac{1}{4}$. | 6. $\frac{1}{2} + \frac{2}{5}$. | 10. $\frac{1}{2} - \frac{1}{5}$. | 14. $2\frac{1}{5} + 2\frac{3}{4}$. |
| 3. $\frac{1}{3} + \frac{1}{4}$. | 7. $\frac{3}{4} + \frac{2}{3}$. | 11. $\frac{4}{5} - \frac{1}{3}$. | 15. $3\frac{3}{5} + 4\frac{1}{2}$. |
| 4. $\frac{1}{2} + \frac{1}{5}$. | 8. $\frac{2}{5} + \frac{1}{4}$. | 12. $\frac{2}{7} - \frac{1}{8}$. | 16. $4\frac{2}{3} + 5\frac{1}{8}$. |

LESSON 7.

Poverty is uncomfortable, as I can testify ; but nine times out of ten the best thing that can happen to a young man is to be tossed overboard, and compelled to sink or swim for himself. In all my acquaintance I never knew a man to be drowned who was worth the saving.—CARFIELD.

Business Fractions, and How to Handle them.

In small transactions the fractions of a cent are usually not considered. Thus, if a purchase amounts to \$2.21 $\frac{1}{4}$ the $\frac{1}{4}$ cent is omitted ; or if the fraction be $\frac{1}{2}$ cent or more, one cent is sometimes added.

To multiply a fraction by a whole number, multiply the numerator or divide the denominator by that number.

When the multiplicand is a mixed number, multiply the fraction and whole number separately, and add the results. Thus,

$$5\frac{1}{2} \times 4 = 20 + (\frac{1}{2} \times 4) = 20 + 2 = 22.$$

To multiply a whole number by a fraction, multiply by the numerator of the fraction, and divide by the denominator of the fraction. Thus, $635 \times \frac{2}{5} = (635 \times 2) \div 5 = 1270 \div 5 = 254$.

To divide a Fraction by a whole number, divide the numerator or multiply the denominator by that number.

To divide a mixed number by a whole number, divide the whole number and the fraction separately, and add the results. Thus, $213\frac{1}{2} \div 2 = (213 \div 2) + (\frac{1}{2} \div 2) = 106\frac{1}{2} + \frac{1}{4} = 106\frac{3}{4}$.

To divide a whole number by a fraction or mixed number, invert the terms of the divisor and proceed as in multiplication.

$$\text{Thus, } 3612 \div \frac{2}{3} = 3612 \times \frac{3}{2} = 5418.$$

EXERCISES.

1. $221\frac{1}{2} \times 4$.

6. $213 \times 2\frac{1}{2}$.

11. $2162 \div 2\frac{1}{2}$.

2. $361\frac{1}{2} \times 3$.

7. $421 \times 3\frac{1}{2}$.

12. $3121 \div 3\frac{1}{2}$.

3. $421\frac{1}{2} \times 4$.

8. $526 \times 4\frac{1}{2}$.

13. $4105 \div 4\frac{1}{2}$.

4. $506\frac{2}{3} \times 5$.

9. $319 \times 1\frac{1}{2}$.

14. $1232 \div 5\frac{1}{2}$.

5. $103\frac{3}{4} \times 8$.

10. $842 \times 9\frac{1}{2}$.

15. $4215 \div 9\frac{3}{4}$.

16. How many vests, each containing $\frac{3}{4}$ of a yard, can be made out of 24 yards of cloth ?

17. If an acre of land is worth \$284, what is $\frac{3}{4}$ of an acre worth ?

18. Find the cost of 203 pounds of tea, at $37\frac{1}{2}$ cents a pound.

19. A farmer sold 24 dozen eggs at $22\frac{1}{2}$ cents a dozen, and 12 pounds of butter at $27\frac{1}{2}$ cents a pound. He was paid in tea at 87 cents a pound. How many pounds of tea should he receive ?

LESSON 8.

Whether a boy is from farm or city, rich or poor, weak or strong, talented or not, will and work are sure to win. Wishes fail, but wills prevail. Labor is luck.—WILBUR F. CRAFTS.

Decimal Numbers, and what they are Good for.

The decimal system of money values was first brought into practical use in America. In this system each value is divided into ten or one hundred smaller values. Thus one eagle equals ten dollars, one dollar equals one hundred cents, one cent equals ten mills.

In money items the dollars are considered *units*, and the cents or mills are considered decimals or fractions of a unit. Thus, in \$2.25 the 25 cents represents 25-hundredths—that is, one-quarter—of a dollar. The decimal **point** separates the fractional part from the whole. Thus, 2.5 equals 2 and 5-tenths, or $2\frac{1}{2}$.

Each removal of the decimal point one place to the right multiplies the value of the fraction by 10, and one place to the left divides the value by 10. Thus, $2.25 \times 10 = 22.50$, and $2.25 \div 10 = .225$, or $.22\frac{1}{2}$.

In adding or subtracting decimal numbers, arrange the numbers so that the decimal points will be in a vertical line. This rule applies to money items as well as to ordinary decimals.

Multiply decimals as you would ordinary numbers. Point off from the product as many figures as there are to the right of the decimal point in both numbers to be multiplied.

Divide Decimals as you would ordinary numbers. Point off from the quotient as many figures as there are decimal figures in the dividend, less the number of decimal figures in the divisor.

To find the cost of lumber at a given price per thousand, multiply the number of feet by the price and divide by 1000. To find the price of a certain number of pounds of coal, multiply by the price per ton and divide by 2000. If coal or produce is quoted at a certain price per hundred, multiply the number of pounds by the price and divide by 100.

EXERCISES.

1. Find the cost of 2468 feet of lumber, at \$27.50 per M. (*thousand*).
2. Find the cost of 4650 pounds of coal, at \$8.50 a ton.
3. Find the value of 1946 pounds of pork, at \$12.50 a hundred.
4. If hay is worth \$22.50 a ton, find the value of 8462 pounds.
5. Find the cost of 4750 envelopes, at \$1.37½ per M.
6. Find the cost of constructing 5984 feet of sidewalk, at \$137.50 per thousand feet.

LESSONS 9, 10.

Men of character are the conscience of the society to which they belong.—EMERSON.

You cannot dream yourself into a character; you must hammer and forge yourself one —JAMES ANTHONY FROUDE.

Valuable Exercises for Practice.

1. Find the sum of all the numbers ending with 45 between 9899 and 11021.
 2. Write neatly the correct abbreviations for the names of the days and months.
 3. Four dozen boxes of equal capacity contain 5,184 oranges; how many dozen oranges in each box?
 4. How many days from August 19 until December 22?
 5. If May 22 falls on Friday, upon what day of the week will June 13 of the same year fall?
 6. How many times can a quart measure be filled from a bag containing $3\frac{1}{2}$ bushels of wheat?
 7. An exhibition is visited by 12,804 persons during six days of a week: what is the average daily attendance?
 8. You find an old book with the date MDCCXLVII. printed at the bottom of the title page: in what year was it published?
 9. A grocer has a ton of sugar and a hundredweight of tea: he divides the former into $2\frac{1}{2}$ -pound parcels and the latter into quarter-pound parcels: how many parcels will he have altogether?
-
10. How many dozen sheets of paper in 60 quires?
 11. A bookseller buys seven dozen slates for \$7.56: at how much each will he have to sell them to gain three cents on each slate.
 12. A butcher pays \$119.25 for 159 turkeys: at how much a pair must he sell them to gain \$39.75?
 13. A fruit dealer buys 31 dozen oranges for \$7.44: how much does he pay for each orange?
 14. Three tubs of butter weigh $55\frac{1}{2}$ pounds, $57\frac{1}{2}$ pounds and $48\frac{3}{4}$ pounds: find their total value at $22\frac{1}{2}$ cents a pound.
 15. A grocer buys $214\frac{1}{2}$ pounds of sugar at $7\frac{1}{2}$ cents a pound and sells it at the rate of 12 pounds for a dollar: how much does he gain?
 16. What will 22,450 envelopes cost at \$1.37 $\frac{1}{2}$ cents per M.?
 17. Cash on hand at the beginning of the day, \$498.40; received during the day, \$532.27; paid, \$168.40: what is the cash balance at the end of the day?
 18. A man bought 34,750 pounds of hay at \$15 a ton, and sold the same at 85 cents a hundredweight: how much did he gain?
 19. How many yards of satin $\frac{3}{4}$ yards wide will it take to line $22\frac{1}{2}$ yards of velvet $\frac{1}{2}$ yard wide?
 20. A rectangular field containing 27 acres is 30 rods wide: what will it cost to fence it at 5 cents a yard?

LESSON 11.

Do your work well, whether it be for life or death. Help other people at theirs when you can, and seek to avenge no injury. Be sure you can obey good laws before you seek to alter bad ones.—
RUSKIN.

Short Cuts in Figures.

Most of the short Methods of arithmetic explained in text-books, ready-reckoners and lightning calculators, are of little, if any, use to the ordinary business man. There are, however, many **short cuts** practised by book-keepers, bank-clerks and others, which every person should know. These are explained in this and the four lessons which follow.

To multiply any number by 11, write the first right-hand figure, add the first and second, the second and third, and so on: finally write the left-hand figure. Carry when necessary.

Example. $358425 \times 11 = 3942675$.

Put down the right-hand figure 5.

Then say, 5 and 2 are 7.

Then, 2 and 4 are 6.

Then, 4 and 8 are 12, put down 2 and carry 1.

Then, 8 and 5 and 1 are 14, 4, carry 1.

Then, 5 and 3 and 1 are 9.

Then write the left hand figure 3.

In multiplying any number by 21, or 31, or 13, or 17, or 51, or 501, or 103, or any number of two figures where one is 1, or of three figures where two are 0 and 1, a good deal of time can be saved by abbreviating the ordinary process, as below:—

Examples. $231423 \times 21 = 4859883$.

$$231423 = 231423 \times 1$$

$$4628460 = 231423 \times 20$$

$$4859883 = \text{product.}$$

$$\begin{array}{r} 20213 \times 13 \\ 60639 \\ \hline \end{array}$$

$$262769 = \text{product.}$$

Instead of putting down 231423 with 21 under it, drawing a line, multiplying by 1, then by 2 or 20, then adding, simply multiply by the 2, placing the product one figure to the left, and add.

$$\begin{array}{r} 20213 \times 201 \\ 40426 \\ \hline \end{array}$$

$$4062813 = \text{product.}$$

EXERCISES.

1. 2134×11 .

2. 6215×11 .

3. 2143×11 .

4. 3212×11 .

5. 4215×11 .

6. 2153×21 .

7. 1024×31 .

8. 8461×41 .

9. 2222×14 .

10. 3120×19 .

11. 2132×201 .

12. 2146×102 .

13. 9842×301 .

14. 8002×402 .

15. 4621×105 .

LESSON 12.

The boy who resolves to do one thing honorably and thoroughly, and sets about it at once, will attain usefulness and eminence.—REV. E. P. ROR.

Short Cuts in Figures.

Example 1. Multiply 96 by 97.

96 . . . 4 (Complement.)

97 . . . 3 (Complement.)

9312

The complement of a number is the difference between the number and the unit of the next higher order. Thus the complement of 96 is 4; of 97 is 3; of 987 is 13, etc. To multiply these two numbers, multiply the complements, 4 and 3, and place the product, 12, in the answer. For the remaining two figures subtract across, either the 4 from the 97, leaving 93, or the 3 from the 96, leaving 93. Apply this rule to the first and second columns of exercises below.

Example 2. Multiply 37 by 43.

The mean number—that is, the number which is as much greater than 37 as it is less than 43—is 40. Forty squared, or multiplied by itself, gives 1600. The square of 3, the difference between the mean number and one of the numbers, is 9. $1600 - 9 = 1591$ = the product of 37 and 43. Apply this rule to the third column of exercises below.

Example 3. Multiply 76 by 46.

46 $6 \times 6 = 36$, carry 3.

76 $6 \times (7 + 4) = 6 \times 11 = 66$, and 3 to carry, 69.

3496 $4 \times 7 = 28$, and 6 to carry, 34.

Multiply units by units for the first figure of the product, the sum of the tens by units for the second figure, and tens by tens for the third figure, carrying when necessary. A similar rule applies to numbers having the left-hand figures the same. Work the exercises in the fourth column below.

EXERCISES.

1. 97×98 .	14. 994×995 .	27. 87×73 .	40. 56×56 .
2. 95×94 .	15. 993×994 .	28. 63×57 .	41. 72×32 .
3. 99×88 .	16. 999×992 .	29. 22×18 .	42. 94×44 .
4. 99×97 .	17. 995×993 .	30. 93×87 .	43. 65×75 .
5. 97×96 .	18. 989×998 .	31. 42×38 .	44. 87×37 .
6. 96×98 .	19. 991×997 .	32. 48×52 .	45. 81×87 .
7. 95×93 .	20. 992×995 .	33. 45×35 .	46. 62×63 .
8. 99×96 .	21. 987×998 .	34. 112×108 .	47. 43×41 .
9. 93×97 .	22. 988×997 .	35. 116×124 .	48. 114×114 .
10. 97×95 .	23. 975×998 .	36. 115×105 .	49. 142×162 .
11. 97×94 .	24. 976×999 .	37. 1012×988 .	50. 137×177 .
12. 94×89 .	25. 977×998 .	38. 1009×991 .	51. 264×244 .
13. 99×89 .	26. 954×998 .	39. 1025×975 .	52. 125×122 .

LESSON 13.

Above all things, be truthful; never try to appear what you are not; honour your father and your mother. Be diligent, recollecting that all permanent success in life is based on labor. Be charitable, not only with your purse, but in your opinions. Prefer the respect of mankind to their applause.—WINFIELD S. HANCOCK.

Short Cuts in Figures.

To multiply any number by 25, add two ciphers, and divide the number by 4.

To multiply any number by 125, add three ciphers, and divide the number by 8.

To multiply a number by any number of *nines*, add as many ciphers to the number as there are *nines*, and from this subtract the original number.

To multiply any number by $2\frac{1}{2}$, add one cipher, and divide by 4.

To multiply any number by $3\frac{1}{2}$, add one cipher, and divide by 3.

To multiply by $33\frac{1}{2}$, add two ciphers, and divide by 3.

To multiply any number by $1\frac{1}{2}$, add one cipher, and divide by 7.

To multiply by $16\frac{2}{3}$, add two ciphers, and divide by 6.

To multiply by $14\frac{2}{3}$, add two ciphers, and divide by 7.

To multiply by 875, add three ciphers, and divide by 8.

To divide by 25, multiply by 4, and cut off two figures.

To divide by 125, multiply by 8, and cut off three figures.

To multiply by $12\frac{1}{2}$, add two ciphers, and divide by 8.

To divide by $12\frac{1}{2}$, multiply by 8, and cut off two figures.

To find the value of any number of articles at 75 cents each, say 248 yards of cloth at 75 cents a yard, deduct one-quarter of 248 from it, and call the remainder dollars. At a dollar a yard the result would be \$248; then at 75 cents it must be $\$248 - (\frac{1}{4} \text{ of } 248) = \186 .

EXERCISES.

1. Find the cost of 84 yards of cloth at $12\frac{1}{2}$ cents a yard.
2. What will 328 bags of potatoes cost at 75 cents a bag?
3. Find the cost of 20 gross of pen-handles at 25 cents each.
4. What will 216 pounds of raisins cost at $16\frac{2}{3}$ cents a pound?
5. A railway charges a cent a mile, for the first 50 miles, for carrying a cord of wood, and then 3 cents for every 4 miles beyond the 50; what will it cost to carry 250 cords 90 miles?
6. If a clerk receives \$640 a year, and his expenses are \$325 a year, how many years will it take him to pay for a 56-acre farm at \$45 an acre?
7. A fruit dealer bought 5 bushels of cherries at \$2.50 a bushel, and sold them at 15 cents a quart; did he gain or lose, and how much?

LESSON 14.

Let all your things have their places; let each part of your business have its time. Resolve to perform what you ought; perform, without fail, what you resolve. Lose no time; be always employed in something useful.—BENJAMIN FRANKLIN.

Short Cuts in Figures.

The **short methods** of multiplication explained below will be found very helpful. See that they are thoroughly mastered.

Example 1. Multiply 76 by 74.

76 Here the two left-hand figures are the same, and the two right-hand figures add to ten. Multiply the two right-hand figures, 6 and 4, and place the product, 24, in the answer; then add one to one of the two left-hand figures, and multiply 7 and 8, and place the product, 56, in the answer, to the left of the two figures already obtained, making a total product of 5624. Try this rule on the first column of exercises below.

Example 2. Multiply 128 by 122.

128 The same rule that applied to the above applies to this exercise.
122 The two right-hand figures give 16, and 12 times (12+1), or 13, is 156. Apply this to the second column of exercise below.

Example 3. Multiply 124 by 104.

124 Multiply the excesses—that is, 24 by 4—and put down the product, 96, two places to the right hand side, as in the illustration.
104 Then add the two numbers, 104 and 124, omitting one of the *ones* at the left. Carry when necessary. Apply this rule to the exercises in the third column below.

Example 4. Multiply 1102 by 1007.

1102 Multiply the excesses, 102 and 7, placing the product, 714, three places to the right. Then add the two numbers as in the preceding exercise, omitting one of the *ones*. Apply this rule to the exercises in the fourth column below.

EXERCISES.

- | | | | |
|----------------------|------------------------|------------------------|--------------------------|
| 1. 24×26 . | 13. 104×106 . | 25. 112×106 . | 37. 1312×1003 . |
| 2. 17×13 . | 14. 112×118 . | 26. 113×105 . | 38. 1009×1004 . |
| 3. 34×36 . | 15. 143×147 . | 27. 114×102 . | 39. 1003×1006 . |
| 4. 25×25 . | 16. 152×158 . | 28. 115×107 . | 40. 1007×1008 . |
| 5. 35×35 . | 17. 127×123 . | 29. 122×108 . | 41. 1012×1003 . |
| 6. 85×85 . | 18. 107×103 . | 30. 112×103 . | 42. 1098×1002 . |
| 7. 27×23 . | 19. 108×102 . | 31. 122×105 . | 43. 1006×1009 . |
| 8. 33×37 . | 20. 111×119 . | 32. 121×102 . | 44. 1002×1212 . |
| 9. 42×48 . | 21. 132×138 . | 33. 127×103 . | 45. 1342×1002 . |
| 10. 57×53 . | 22. 295×295 . | 34. 124×104 . | 46. 1099×1009 . |
| 11. 61×69 . | 23. 392×398 . | 35. 135×103 . | 47. 1199×1005 . |
| 12. 84×86 . | 24. 992×988 . | 36. 137×102 . | 48. 1265×1003 . |

LESSON 15.

To cram a lad's mind with infinite names of things which he never handled, places he never saw, or never will see, statements of facts which he cannot possibly understand, and which must remain merely words to him, is, in my opinion, like loading his stomach with marbles.—JAMES ANTHONY FROUDE.

Short Cuts in Figures.

To multiply two small numbers each of which ends in 5, such as 35 and 75, take the product of the 3 and 7, increase this by one-half of the sum of these figures, and prefix the result to 25. Thus,

$$\begin{array}{r} 35 \\ 75 \\ \hline 2625 \end{array}$$

$$5 \times 5 = 25$$

$$7 \times 3 = 21, 21 + \frac{1}{2}(7 + 3) = 26$$

This rule will be found to hold good with any two numbers each of which end with 5. Apply it to the first column of exercises below.

In the multiplication of large numbers, where one part of the multiplier is a *multiple* of the remainder, the work can always be considerably abbreviated. See the examples below:—

$$\begin{array}{r} 2043 \\ 427 = 420 + 7 = (7 \times 60) + 7 \\ \hline 14301 = 2043 \times 7 \\ 858060 = 2043 \times 420 = 14301 \times 60 \\ \hline 872361 = \text{product.} \end{array}$$

be done is to multiply 14301 by 60 and place it under. The sum of the two partial products gives the whole product. As a test exercise, multiply some number by 14412 so as to have only two lines instead of five to add. See exercises in second and third columns below.

We first multiply by 7, then by 420, thus taking the number 2043, 427 times. The contraction is made in multiplying by 420. We take its factors, 7 and 60; we have already multiplied by 7, so that all that remains to

$$\begin{array}{r} 3142 \\ 972 = 900 + 72 = 900 + (9 \times 8) \\ \hline 2827800 = 3142 \times 900 \\ 226224 = 3142 \times 72 = 28278 \times 8 \\ \hline 3054024 = \text{product.} \end{array}$$

Remember that any number is *divisible by 3* if the sum of its digits is divisible by 3; that any number is *divisible by 5* if its right-hand figure is 5 or 0; that any number is *divisible by 9* if the sum of its digits is divisible by 9.

EXERCISES.

- | | | |
|---------------------|-------------------------|----------------------------|
| 1. 45×85 . | 6. 2013×927 . | 11. 21401×729 . |
| 2. 95×25 . | 7. 1214×279 . | 12. 31252×14412 . |
| 3. 35×65 . | 8. 3135×728 . | 13. 42001×70357 . |
| 4. 75×95 . | 9. 2146×287 . | 14. 15421×81273 . |
| 5. 85×55 . | 10. 3210×189 . | 15. 30012×94572 . |

LESSON 16.

It is not work that kills men ; it is worry. Work is healthy ; you can hardly put more upon a man than he can bear. Worry is rust upon the blade. It is not the revolution that destroys the machinery, but the friction.—HENRY WARD BEECHER.

Short Cuts in Figures.

To multiply any number containing $\frac{1}{2}$, such as $7\frac{1}{2}$, $19\frac{1}{2}$, $12\frac{1}{2}$, etc., by itself, multiply the whole number by the next higher whole number, and annex $\frac{1}{4}$ to the product. Thus, $7\frac{1}{2} \times 7\frac{1}{2} = 7 \times 8 + \frac{1}{4} = 56\frac{1}{4}$; and $19\frac{1}{2} \times 19\frac{1}{2} = 19 \times 20 + \frac{1}{4} = 380\frac{1}{4}$. Apply this rule to the first column of exercises below.

To multiply two fractional numbers, such as $7\frac{1}{2}$ and $7\frac{3}{4}$, multiply 7 by 8, and add to the product the product of $\frac{1}{2}$ and $\frac{3}{4}$, or $\frac{3}{8}$, and you have the correct product. Apply this rule to the second column of exercises below.

To multiply two fractional numbers each containing $\frac{1}{2}$, such as $5\frac{1}{2}$ by $7\frac{1}{2}$, add the product of the whole numbers plus $\frac{1}{4}$ to $\frac{1}{2}$ of the sum of the whole numbers. Thus, $5 \times 7 = 35$; $35 + \frac{1}{2}(5+7) = 35 + 6 = 41$, and to this add $\frac{1}{4}$, making $41\frac{1}{4}$, the product. Apply this rule to the third column of exercises below.

To multiply two fractional numbers each containing $\frac{3}{4}$, such as $11\frac{3}{4}$ by $13\frac{3}{4}$, to the product of the whole numbers add the product of their sum by $\frac{3}{4}$, after which add the product of $\frac{3}{4}$ by $\frac{3}{4}$. This rule applies in all cases where both fractions are the same. Apply it in working the fourth column of exercises below.

EXERCISES.

- | | | | |
|--|--|--|--|
| 1. $6\frac{1}{2} \times 6\frac{1}{2}$. | 11. $5\frac{1}{2} \times 5\frac{1}{2}$. | 21. $2\frac{1}{2} \times 5\frac{1}{2}$. | 31. $2\frac{1}{2} \times 4\frac{1}{2}$. |
| 2. $3\frac{1}{2} \times 3\frac{1}{2}$. | 12. $2\frac{1}{2} \times 2\frac{1}{2}$. | 22. $6\frac{1}{2} \times 7\frac{1}{2}$. | 32. $2\frac{1}{2} \times 5\frac{1}{2}$. |
| 3. $4\frac{1}{2} \times 4\frac{1}{2}$. | 13. $8\frac{1}{2} \times 8\frac{1}{2}$. | 23. $4\frac{1}{2} \times 6\frac{1}{2}$. | 33. $3\frac{1}{2} \times 3\frac{1}{2}$. |
| 4. $9\frac{1}{2} \times 9\frac{1}{2}$. | 14. $5\frac{1}{2} \times 5\frac{1}{2}$. | 24. $7\frac{1}{2} \times 3\frac{1}{2}$. | 34. $9\frac{1}{2} \times 9\frac{1}{2}$. |
| 5. $5\frac{1}{2} \times 5\frac{1}{2}$. | 15. $9\frac{1}{2} \times 9\frac{1}{2}$. | 25. $2\frac{1}{2} \times 8\frac{1}{2}$. | 35. $8\frac{1}{2} \times 2\frac{1}{2}$. |
| 6. $7\frac{1}{2} \times 7\frac{1}{2}$. | 16. $7\frac{3}{4} \times 7\frac{3}{4}$. | 26. $9\frac{1}{2} \times 4\frac{1}{2}$. | 36. $5\frac{1}{2} \times 9\frac{1}{2}$. |
| 7. $8\frac{1}{2} \times 8\frac{1}{2}$. | 17. $6\frac{1}{2} \times 6\frac{1}{2}$. | 27. $9\frac{1}{2} \times 8\frac{1}{2}$. | 37. $8\frac{1}{2} \times 4\frac{1}{2}$. |
| 8. $11\frac{1}{2} \times 11\frac{1}{2}$. | 18. $8\frac{1}{2} \times 8\frac{1}{2}$. | 28. $7\frac{1}{2} \times 9\frac{1}{2}$. | 38. $6\frac{1}{2} \times 2\frac{1}{2}$. |
| 9. $12\frac{1}{2} \times 12\frac{1}{2}$. | 19. $2\frac{3}{4} \times 2\frac{3}{4}$. | 29. $2\frac{1}{2} \times 7\frac{1}{2}$. | 39. $9\frac{1}{2} \times 4\frac{1}{2}$. |
| 10. $19\frac{1}{2} \times 19\frac{1}{2}$. | 20. $9\frac{1}{2} \times 9\frac{1}{2}$. | 30. $1\frac{1}{2} \times 9\frac{1}{2}$. | 40. $8\frac{1}{2} \times 2\frac{1}{2}$. |

41. How much is received for 18 pails of berries, each containing $\frac{3}{4}$ of a peck, at $12\frac{1}{2}$ cents a quart?

42. What will it cost to bronze a cube, each edge of which is 3 feet, at $1\frac{1}{2}$ cents a square inch?

LESSON 17.

Whatever cultivates care, close observation, exactness, patience and method, must be valuable training, and preparation for all studies and all pursuits.—PROF. RUNKLE.

How to Make Change.

Salesmen usually **make change** by addition. They have the money to count out, and in doing so they add to the amount of the purchase until they reach the amount of the bill presented. For example, if you buy something worth \$3.35 and present a ten-dollar bill in payment, you will probably receive in return 5 cents, 10 cents, 50 cents, \$1, and \$5; the salesman saying **40, 50, \$4, \$5 \$10**. This method is least liable to error.

Accuracy and rapidity in counting out change can best be acquired by practice behind the counter or at the cash desk. In the exercises immediately below, the amount of the purchase and the amount of the *bills* presented are given, and it is required to find the amount of change to be returned. Do the work without pen or pencil.

EXERCISES.

- | | | |
|--------------------|--------------------|----------------------|
| 1. \$10.00—\$3.14. | 6. \$5.00—\$1.90. | 11. \$40.00—\$23.18. |
| 2. \$15.00—\$2.13. | 7. \$1.00—\$0.5. | 12. \$25.00—\$15.65. |
| 3. \$30.00—\$9.94. | 8. \$2.00—\$1.20. | 13. \$20.00—\$13.21. |
| 4. \$10.00—\$7.16. | 9. \$2.00—\$1.03. | 14. \$15.00—\$11.15. |
| 5. \$20.00—\$2.95. | 10. \$7.00—\$5.19. | 15. \$50.00—\$22.68. |
16. If you have no change except 25-cent, 50-cent and \$1-pieces, how can you make change for \$7.25 out of \$10?
17. You owe \$5.75, but have only a \$5 bill, a \$1 bill and a 25-cent piece; the collector has nothing smaller than a half-dollar: how can change be made?
18. You owe \$4.40, and have a \$10 bill, a silver dollar, and 3 10-cent pieces; the collector has \$7 in bills, 3 25-cent pieces and a five-cent piece: how can change be made?
19. If you have no change except a 25-cent piece, a 50-cent piece, and a \$5 bill, how can you pay a bill of \$1.65, if the collector has 2 10-cent pieces and several \$2 bills?
20. A customer buys $13\frac{1}{2}$ yards of print at $11\frac{1}{2}$ cents, 14 yards of flannel at $37\frac{1}{2}$ cents, 3 yards of silk at \$1.75, and $\frac{3}{4}$ of a yard of lace at 24 cents: how much change should she get out of a \$20 bill?
21. A customer buys 12 pounds of sugar at $11\frac{1}{2}$ cents, $3\frac{1}{2}$ pounds of butter at 18 cents, $\frac{3}{4}$ of a pound of tea at 75 cents, 15 pounds of cheese at $12\frac{1}{2}$ cents, a peck of apples at 22 cents, and some small articles amounting to \$1.64. She presents $14\frac{1}{2}$ dozen eggs worth 13 cents, and a \$10 bill, in payment: how much change should she receive?

LESSON 18.

'Tis only noble to be good.—TENNYSON.

God blesses the generous thought.—WHITTIER.

The noblest mind the best contentment has.—SPENSER.

Be there a will, and wisdom finds a way.—CRABBE.

How to Mark Prices of Goods.

Business men make use of various devices to prevent the cost and selling-price mark of their goods from becoming known, except to their salesmen. The device most frequently consists of some word or phrase containing ten different letters or characters, each representing a figure. Thus take the word

C U M B E R L A N D
I 2 3 4 5 6 7 8 9 0

If it is required to write the cost, say \$2.45, and the selling-price, say \$3.75, the proper mark will be

uile

mle

An extra letter, called a **repeater**, is used to prevent the repetition of any letter. Hence, instead of writing \$6.00, according to the above Key, which would be rdd, the letter **K**, or any other letter not found in the Key could be used, which would make the mark **rdk**.

The following words and phrases afford examples of marking keys:—

CHAMBER POT

Black Horse.

Do be quick.

Cash Profit.

Importance.

Hard Moneys.

Now be sharp.

Vanderbilt.

Gold Watches.

Charleston.

Pay Customer.

Bible Words.

Be quick now.

Handy Girls.

Send for Him.

For practice, write down a hundred imaginary prices, and change to letters, using any of the above **Keys**.

LESSON 19.

No young lady could have a better safeguard against adversities of fortune, or a better resource in time of need, than a good knowledge of business affairs.—HARRIET BEECHER STOWE.

Something about Wages and Pay Rolls.

Wages or **salary** may be defined as "a compensation given to a hired person for his or her services." The hackman receives fare; the expressman, freight; the inventor, royalty; the author, copyright; the postmaster, salary. And yet all these are wages received for personal services.

The price of labor is constantly changing. There are numerous circumstances which tend to establish the price of labor at any given time and place. The cost of living has an important influence.

Higher wages are paid for skilled than for elementary labor, for mental than for physical labor. The reason is obvious. The quality of the service is not the same. The man who has spent years of the best part of his life, and a large sum of money, preparing for his vocation, should not work so cheaply as the common laborer who has made no preparation.

Demand and supply have an influence upon wages. When there are more laborers than there is work, wages decrease. When there is more work than there are workers, wages increase. These changes result from competition.

Manufacturers and employers of labor generally keep what they call a **wages-book** or **pay-roll**, in which are entered the names of the several employees, the wages which each is paid, and columns for marking the time, the number of hours per day, etc., of each workman. Books specially ruled for this purpose can be bought in any bookstore.

EXERCISES.

1. A man earns \$2.25 a day; how much should he earn in a month of August the first day of which is Wednesday?
2. A man working $11\frac{1}{2}$ hours a day at 30 cents an hour will earn how much in $15\frac{1}{2}$ days?
3. A farmer hired a man on March 15, at \$24 a month; the man left on Nov. 31 following. How much did he earn?
4. A foreman receives \$3 a day, ten hours, and 50 cents an hour for overtime. During a certain week he works from 6.30 A.M. until 10.30 P.M., less 2 hours for meals, each day. What are his wages for that week (6 days)?
5. At the rate of \$2.70 for a day of nine hours, how much should a machinist receive for $142\frac{1}{2}$ hours' work?

LESSON 20.

This book of the law shall not depart out of thy mouth ; but thou shalt meditate therein day and night, that thou mayest observe to do according to all that is written therein : for then thou shalt make thy way prosperous, and then thou shalt have good success.—BIBLE.

Rolls.

on given to a
receives fare ;
author, copy-
pages received

are numerous
at any given
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. The qual-
pent years of
preparing for
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Losses and Gains.

The difference between the cost of anything and the price at which it is sold is a **gain** or a **loss**,—a gain when the selling price is the greater, and a loss when the cost is the greater.

EXERCISES.

1. A man rented a skating-rink for three weeks at \$95 a week. His expenses for heat and light were \$1.75 a day for eighteen days. He charged 25 cents for adults, and 15 cents for children. The total attendance of the former was 3254, and of the latter 2106. How much did he gain ?

2. A grocer bought 100 loads of potatoes, of 30 bushels each, at $37\frac{1}{2}$ cents a bushel. Allowing $7\frac{1}{4}$ bushels for waste, how much will he gain by retailing the rest at 15 cents a peck ?

3. A milk dealer buys 27 ten-gallon cans of milk each day at \$1.75 a can. He keeps three delivery wagons at an expense of \$1.75 each a day, and sells the milk at 7 cents a quart. Find his gain in ten weeks, including Sundays.

4. Three brothers chopped wood during 20 weeks of a certain winter. They averaged 7 cords a day. Their board cost \$2.50 a week each. They sold the wood at \$1.75 a cord. How much did each make ?

5. A man bought a house and lot for \$7842. He built an addition to the house at a cost of \$1643. The house was destroyed by fire, and he received insurance of \$3520. He then sold the lot for \$5215. How much did he lose.

6. A merchant had goods on hand January 1, 1887, valued at \$12,324. He bought goods at a cost of \$7,623, and sold goods to the amount of \$14,265 during the year. On December 31, 1886, his stock book showed goods on hand valued at \$8,937. How much did he gain during the year

7. Two farmers hired a steam thrasher for six months at \$22 a month. They were employed during 127 days of that time, and their expenses were \$3.25 cents a day. They threshed 63,246 bushels of grain, for which they received $3\frac{1}{4}$ cents a bushel. How much did they make during the six months.

8. A book agent bought 90 books at \$2.75 each ; he sold them at \$5 each ; his expenses were \$12.25 ; he was unable to collect for three books. How much did he gain or lose.

9. A lumber dealer bought 32,450 feet of lumber at \$22 per M., and sold 11,750 feet at \$34 per M., and the remainder at \$28 per M. How much did he gain.

10. A merchant had goods valued at \$16,324 at the beginning of the year ; he bought during the year \$11,372 worth, and sold \$20,115 worth ; had \$3,621 worth destroyed by fire, and received \$1,225 insurance ; at the end of the year he has \$6,389 worth on hand. Find his gain or loss for the year.

LESSON 21.

What is really wanted is to light up the spirit that is within a boy. In some sense and in some effectual degree, there is in every boy the material of good work in the world; in every boy, not only in those who are brilliant, not only in those who are quick, but in those who are solid, and even in those who are dull.—GLADSTONE.

United States Money.

Money is an exchangeable commodity, set aside by general consent to serve as a medium of exchange.

Any commodity, in order to satisfy the functions of **money**, should contain great worth in small bulk, and should not vary much in value.

Gold and **silver**, answering best to these requirements, have been almost universally adopted as money. **Gold**, as it varies slightly, and contains great value in little bulk, is preferable to silver, which suffers more marked fluctuations, and is considerably more bulky.

These **minerals** are used in manufactures, and are not peculiarly **money**, except by virtue of general consent.

Paper-money is money founded on credit; and although it *represents* value, it really is not value. It is simply a *promise to pay* in gold or silver on demand. This class of money includes **bank-notes**, government bonds, etc.

United States money consists of gold, silver, nickel and bronze coins, and government or bank-notes, all duly authorized by law. The standard unit of value is the gold dollar.

EXERCISES.

1. What is the cost of 112 bales of cotton at 13 cents a pound, if each bale contains 477 pounds?
2. Two persons join in purchasing some property, one paying \$1250, and the other \$1000. If the property rise in value to \$3750, what will be the value of each one's share.
3. An estate dealer bought a house and lot for \$6420. He spent \$342 in repairs. He then sold it for \$2130 in cash, and a boat valued at \$5900. The boat was burned shortly after the sale. How much did he lose?
4. If you buy a pound of tea at 65 cents, 3 dozen eggs at 13 cents, 2 pounds of soda at 11 cents, 7 yards of ribbon at 24 cents, and a hat at \$1.25, and the merchant throws off 10 cents from every dollar's worth bought, how much change should you get out of a \$5 bill?
5. Two carpenters take a contract of building a house for \$2751. The one works steadily for 32 days of 10 hours each: the other works 24 days of 8 hours each. They pay \$1215 for material. How much of the profit should each receive

LESSONS 22, 23, 24, 25.

He who is taught to live upon little owes more to his father's wisdom than he that has a great deal left him does to his father's care — Believe nothing against another but on good authority ; nor report what may hurt another, unless it be a greater hurt to conceal it.—WILLIAM PENN.

Valuable Exercises for Practice.

1. Find the cost of excavating a cellar 20 feet square and 6 feet deep, at 90 cents a cubic yard.

2. What will it cost to plaster a room 32 feet long, 18 feet wide, 13 feet and high, at 12 cents a square yard, allowing 200 square feet for doors and windows ?

3. How many yards of carpet 27 inches wide will be required for a hall 11 feet 3 inches wide and 64 feet long ?

4. What will it cost to kalsomine a room 26 feet by 14 feet and $9\frac{1}{2}$ feet high, at 7 cents a square yard ?

5. A foreman receives \$2.90 a day, ten hours, and 60 cents an hour for overtime. He is charged 20 cents for each hour he is absent. His time for a certain week is as follows : $12\frac{1}{2}$ hours, 8 hours, $8\frac{1}{2}$ hours, 13 hours, $10\frac{1}{2}$ hours, and 12 hours. What should his week's wages be ?

6. A map is drawn on a scale of 10 miles to an inch, and a township is represented on it by a square whose side is half an inch. How many acres in the township ?

7. Find the value of the lumber, at \$18 per M., that will be required to build 500 yards of plank sidewalk 10 feet wide, 2 inches thick, and resting on 3 continuous lines of scantling 4 inches square.

8. A sleigh upon which four-foot wood is piled is 10 feet long. How high should the wood be piled to make two cords ?

9. Wheat has been bought at 85 cents a bushel. At what price per cental must it be sold so that after paying freight charges of 8 cents a bushel the gain may be $\frac{1}{4}$ of the entire cost ?

10. A New York manufacturer owes an advertising bill of £21 11s. 6d. in London, England. How much will a foreign draft for this sum cost him, supposing the charges to be 75 cents and exchange \$4.87 ?

11. A furniture dealer has on hand at the beginning of the year, furniture valued at \$4,935.55. He bought during the year, \$7,428.40, and sold during the year, \$8,420.90. A fire destroyed furniture which cost \$1049, upon which he received insurance, \$825. His stock-book at the close of the year showed furniture on hand valued at \$5620. Find his gain or loss.

12. A merchant mixes 22 pounds of coffee worth 45 cents with 18 pounds worth 50 cents. What is a pound of the mixture worth ?

13. A grocer received pay at 72 cents a pound for what he supposed to be $5\frac{1}{2}$ pounds of tea. His pound weight was one-half ounce too heavy. How much money should he have received.

LESSON 26.

Be sure you are right, then go ahead.

Deeds, not hours, are the measures of life.

Strong men have wills ; weak ones, only wishes.

Never buy what you do not want because it is cheap.

The Use of Capital Letters.

The letter **I**, when standing for the person writing, should always be a capital : as, when **I** returned from the city, **I** received your kind letter.

Names of persons and places should begin with capital letters. When the name consists of more than one word, each word should begin with a capital : as, Thomas Gibson, New York, Red River Valley.

Every important word in a group of words used as a name or title should begin with a capital ; as, The Gulf of Mexico, The Cape of Good Hope, New York *Daily World*.

The first word of every sentence, and the first word of each line of poetry should begin with a capital.

Names of the months and days, names of religious denominations and political parties, names of important things, events, or bodies of men, and names of associations, fraternities and companies should begin with capitals ; as, February, Thursday, Good Friday, Easter Sunday, Decoration Day, Presbyterian, Methodist, Roman Catholic, Republican, Democrat, The Reformation, The Battle of Gettysburg, The Declaration of Independence, Young Men's Christian Association, Boston Transfer Company.

Any name of Deity, and any word standing for the name of Deity, should begin with a capital ; as, God, Creator, The Almighty, Saviour.

Names of peoples and languages should begin with capitals ; as, English, French, Chinese, Greek, Latin, Hebrew.

Miscellaneous. Each article mentioned in an account, and all the leading words of advertisements should begin with capitals. Compound titles like Attorney-General, Vice-President, etc., should have both words capitalized. In the superscription of a letter only the first word should be capitalized ; as, Yours truly, Your sincere friend, etc. The words *north*, *south*, *east* and *west*, when they refer to portions of the country, should begin with capitals ; as, The Canadian North-West, etc.

LESSON 27.

Only live fish swim up stream.

A pound of pluck is worth a ton of luck.

You must earn a dollar to know how to use it.

Failure should be the stepping-stone to success.

How to Speak and Write Correctly.

Plurals. Be careful in writing such plurals as moneys, journeys, valleys, chimneys, turkeys, negroes, calicoes, buffaloes, sons-in-law, solos, piano fortes.

Verbs and number. Follow plural subjects with plural verbs; as, we *were*, not we *was*; you *were*, not you *was*; they *are*, not they *is*; they *were*, not they *was*; the men *are*, not *is*; the children *were*, not *was*; the boys *have*, not *has*; my sisters *write*, not *writes*. These *are* (not *is*) the boys who *were* (not *was*) at school. Jennie and Annie *were* (not *was*) schoolmates.

To do; to see. These two verbs give considerable trouble. Their principal forms are *do*, *did*, *done*, and *see*, *saw*, *seen*. The second forms, *did* and *saw*, should never follow *is*, *are*, *was*, *were*, *have*, *has* or *had*. The third forms, *done* and *seen*, should always follow one of these words expressed or understood; as, I *did* the work, or I *have done* the work, or the work *is done*. I *saw* the picture, or I *have seen* the picture, or the picture *was seen*.

Miscellaneous verbal forms. The rules above for *to do* and *to see* apply alike to all verbs. Such expressions as *have come*, *has sang*, *was drove*, *have broke*, *have begun*, *have knew*, *is froze*, *have gave*, *knowed*, *has went*, *has give*, *has rang*, *have ran*, *were took*, *has stole*, *throwed*, etc., are gross errors and should be avoided.

Possessives. The possessive of nouns, both singular and plural, is formed by adding an apostrophe and "s," (s); as, the *man's* hat is on the table. The *children's* play-ground is behind the house. When a plural noun ends in "s," only the apostrophe (') is added; as, The *pupils'* lessons should be explained. The apostrophe is never used in forming the possessive of pronouns.

I, me, he, him, she, her. Many persons continually make mistakes in conversation and in correspondence in the use of these words. The following are examples: Let you and *I* go; say *me*. He is as good as *me*; say, *I*. She is as tall as *him*; say, *he*. You are older than *me*; say, *I*. John went with James and *I*; say, *me*. You are stronger than *him*; say, than *he*. Between you and *I*; say, you and *me*. *Me* and *him* can carry it; say, *he* and *I*. *Her* and her sister are coming; say, *she* and her sister.

LESSONS 28, 29, 30, 31.

Nothing can be had for nothing ; whatever a man achieves, he must pay for ; and no favor of fortune can absolve him from his duty.
—BAYARD TAYLOR.

Valuable Exercises for Practice.

1. Write a telegraphic message, not exceeding ten words, and containing three distinct statements.
2. Write for your country paper a short description of a serious accident, of which you were an eye-witness.
3. You are shortly to move to a new store some distance from your present stand. Prepare a circular to be sent to your customers, apprising them of the change.
4. You have lost a valuable gold watch. Prepare a notice of the same to be put up in your village post-office.
5. You are a member of a local literary society and wish to give notice of a motion which you intend to make at the next meeting. Write the notice.
6. Write neatly the names and addresses of five prominent business houses, and five well-known manufacturing establishments.
7. You are in want of a situation as clerk in a grocery business. Prepare an advertisement for the paper, setting forth your desires.
8. You are the secretary of the Public School Committee of your town. Write a notice calling the members together for a special meeting.
9. Write five short notices of your goods, to be printed in the local column of your village paper.
10. Distinguish the difference in meaning between *goods* and *wares*, *business* and *concern*, *wholesale* and *retail*, *cost* and *expense*, *wages* and *salary*, *tact* and *push*, *custom* and *fashion*, *character* and *reputation*.
11. The merchants of your town have decided to close their places of business at 7 o'clock each week-day evening, and at 10 o'clock on Saturday evening. Prepare an announcement or agreement to this effect, to be signed by those interested.
12. Explain these synonyms so as to show clearly the distinction in the meanings they bear, and write a sentence in which each is properly used :—
Lie, lay ; two, couple ; few, less ; many, much ; lease, hire ; exceed, excel ; hope, expect ; pile, heap ; high, tall ; safe, secure ; excuse, apology ; handsome, beautiful ; find, discover ; deny, refuse.
13. Write neatly the names of twenty kinds of dry goods and twenty kinds of groceries. Be careful about your spelling.
14. What will it cost to mail the following articles.
Two drop-letters ; three domestic letters, each less than 1 oz. in weight ; one domestic letter weighing 2½ oz. ; one small newspaper ; one domestic registered letter of 1½ oz. weight ; one letter, weighing 1½ oz., to England ; one parcel weighing 3½ pounds ; one package of books weighing 2½ pounds.

LESSON 32.

As the twig is bent, the tree's inclined.—POPE.

The love of money is the root of all evil.—BIBLE.

They fail, and they alone, who have not striven.—ALDRICH.

That life is long which answers life's great end.—YOUNG.

How to Write a Business Letter.

The parts of a letter are the heading, the address, the salutation, the body, the complimentary close, and the signature.

The **heading** should show where and when the letter was written. It should include the name of the *post-office* where the letter is supposed to be mailed, and if it be a small place, the name of the county and State should be given also. If an answer is to be sent to the place from which the letter is written, the heading should give in full the *address of the writer*. The name of the place should be followed by the *date*, which includes the name of the month, the day of the month and the year. All letters, notes and cards should be dated.

There are many places in the United States which have the same name. In writing from any such, even though it be a large and well-known city, be careful to add the name of the State.

The **heading** should be placed in the upper right-hand corner of the sheet of paper, and should begin about one inch and a half from the top of the sheet. It may occupy a part of a line, of two lines, or of three lines. Note carefully the punctuation and abbreviations of the headings below :—

(SHEET OF PAPER.)

Albany, N.Y., Oct. 9, 1887.

(SHEET OF PAPER.)

*50 Bramfield St.,
Boston, July 20, 1887.*

LESSON 83.

To live in hearts we leave behind is not to die.—CAMPBELL.
Do noble things, not dream them all day long.—KINGSLEY.
Be ye, therefore, wise as serpents, and harmless as doves.—BIBLE.
Be thou the rainbow in the storms of life!—BYRON.

How to Write a Business Letter.

The address shows to whom the letter is written, and to what place it should be sent. It should include the *title* and *name* of a person or firm, and their *post-office address* in full. It may be placed at the beginning or at the close of a letter. In business letters the best place is at the beginning, and in social letters at the end. The address, if placed at the beginning of a letter, should begin near the left margin, and on the next line underneath the last line of the heading.

The salutation is the greeting at the beginning of the letter,—the “Dear Sir,” the “My dear brother,” and the like, with which it is usual to begin a letter. What the salutation shall be must be determined by the relation between the writer and the person addressed. Our most formal salutations are “Sir” and “Madam.” If we wish to be a little more familiar, we write “Dear Sir,” or “My dear Sir.” Beyond these is a numerous variety of forms that a numerous variety of relations warrant. Between firms the salutation should be “Gentlemen.” **The words of the salutation should never be abbreviated.** Note the illustrations below:—

I.

(SHEET OF PAPER.)

.....
(THE HEADING.)
.....

Dr. Jernald Ball,
270 Queen St. E., Toronto.

Dear Sir:

2. Messrs. A. S. Barnes & Co.,
New York City.
Gentlemen:

3. Mrs. T. M. King,
27 Main St., St. Louis, Mo.
Dear Madam:

LESSON 34.

Of two evils choose—neither.

Be not simply good; be good for something.

The current coin of life is plain, sound sense.

It is less pain to learn in youth than to be ignorant in age.

How to Write a Business Letter.

The **body of a letter** may begin one line or space below the salutation, and just where the salutation closes; or it may, if the address be long, begin on the same line and immediately following the salutation. A *margin* of about one-half an inch should be left down the left-hand side of the sheet. When a new *paragraph* is necessary, it should begin directly in a line with the first word of the body of the letter. A new paragraph should be made whenever one begins to write about a new subject. In acknowledging the receipt of a business letter, give the date of it.

The **complimentary close** follows the body of the letter, and immediately precedes the signature. The closing words should not be more familiar than the salutation; and like the words of the salutation, they depend upon the relations between the two persons. "Respectfully yours," "Very respectfully yours," "Very truly yours," etc., are the usual closing words of formal or business letters. The first word only of the complimentary close should begin with a capital.

The **signature** follows the complimentary close, on the next line, and to the right. It should end near the right-hand side of the sheet. Note the following illustrations:—

- | | |
|---|--|
| 1. <i>Respectfully yours,</i>
<i>John R. Emerson.</i> | 4. <i>Yours very kindly,</i>
<i>Mary Jane Holmes.</i> |
| 2. <i>Your sincere friend,</i>
<i>Mary Anderson.</i> | 5. <i>Very truly yours,</i>
<i>Thomas Gibson.</i> |
| 3. <i>I, am, Sir,</i>
<i>Yours respectfully,</i>
<i>Wallace Reynolds.</i> | 6. <i>I have the honour to be, Sir,</i>
<i>Your obedient servant,</i>
<i>T. R. Walmsley.</i> |

The **signature** should be written very plainly; for no matter how familiar your immediate friends are with your dashing ink lines, your business correspondents may have considerable difficulty in associating them with your printed name.

"Bear in mind the importance, in your correspondence, of using always the most chaste and beautiful language it is possible to command, consistent with ease and naturalness of expression."

LESSON 35.

Borrowing money at ten per cent. to put into business that nets about the same, is much like the Irishman's cutting off the top of his blanket, and sewing it on the bottom, to make the blanket longer.

A Sample Business Letter.

MARK B. EATON.

Agricultural Implements.

+++

Office, Main St.

Improved Farms for Sale.

Money to Loan.

East Blomfield, N.Y., May 19, 1887.

*The Aetna Life Ins. Co.,
Hartford, Conn.,*

Gentlemen:—At the instance of several persons of consideration and influence, I am induced to make application for an agency of your Company.

I have a real-estate office and a general implement agency; and in connection with my labor in this direction I am led to believe that I can advance your interests, as well as my own, and also benefit this community, by representing your well-known institution.

I am prepared to give satisfactory security and references, and request the favor of your early reply.

Very truly yours,

Mark B. Eaton.

LESSON 86.

Who does the best his circumstance allows,

Does well, acts nobly; angels could no more.—YOUNG.

The very art of life, far as I have been able to observe, consists in fortitude and perseverance.—SCOTT.

Hints and Helps for Corresponding Clerks.

Abbreviations. Avoid abbreviations such as "&" for "and"; "X-Roads" for "Cross-Roads"; "Balt." for "Baltimore"; "Phil." for "Philadelphia"; "C'wood" for "Collingwood"; "Wms'town" for "Williamstown"; "Jno'town" for "Johntown"; "ad." for "advertisement"; "Gents." for "Gentlemen," etc.

Envelope Address. When the post-office is a city, it is generally necessary to give the number and the street. Sometimes it is desirable, in order to facilitate delivery, to give the part of the house, as "Room 14, 650 Chestnut Street, Philadelphia." Avoid the following error, and others similar: "322 Broadway St." Here "way" conveys the idea of a street.

Officials. In letters to ordinary officials, it is customary to begin with the salutation "Sir," and close with "I beg to remain, your obedient servant"; or, "I have the honor to be, Sir, your obedient servant."

Corporation. A petition or memorial to a Board of Aldermen, or other officers, may begin with "Gentlemen," and close with "All of which is respectfully submitted."

Captain. When this title is used instead of "Sir" in the salutation or complimentary close, it should not be abbreviated. The same rule applies to "Colonel" and other titles.

Junior. The abbreviation of this word is "Jr." or "Jun." Its place is immediately after the name; as, "Wm. Brown, Jr., Esq." It never takes the place of any title.

Degrees. Scholastic degrees—M.D., D.D., M.A., A.B., etc.—are always abbreviated in addresses. Titular addresses of high rank, however,—such as President, Governor, Archbishop, etc.,—should never be abbreviated in such use. It is not in good taste to address a man as "Mr. Charles King, M.A.," or, "Charles King, Esq., M.D." Titles are multiplied on title-pages and catalogues, but not more than one should appear on letters.

Doctor. Doctors of Divinity may be addressed "Rev. Dr." Doctors of Medicine may be addressed: "A——— B——— M.D.," or, "Dr. A——— B———."

LESSON 37.

Men who have made their fortunes are not those who had five thousand dollars given them to start with, but started fair with a well-earned dollar or two.—GRACE GREENWOOD.

Hints and Helps for Corresponding Clerks.

Titles. The following miscellaneous titles, for use in addressing letters or notes of invitation cover the field of ordinary superscriptions; *His Excellency and Mrs. Grover Cleveland; Governor and Mrs. George B. McClellan; Hon. and Mrs. James G. Blaine; Sir and Lady John A. Macdonald; Rev. Dr. and Mrs. T. Dewitt Talmage; Prof. and Mrs. F. H. Anderson; Mr. and Mrs. W. H. Howland.*

P.O. Except in special instances, it is not necessary to write the letters P.O. after the name of the post-office. The letter if it reaches the town, is not likely to go to the court-house or jail.

Postage Stamps. The proper place for the stamp is at the top of the envelope, at the right margin,—in the right-hand upper corner,—and above the address.

Paging. If the letter consists of more than one sheet, the sheets should be arranged in order, and paged carefully.

Folding. A letter-sheet should be folded from the bottom forward, bringing the lower edge near to the top edge,—so as to make the half-length a little shorter than the envelope,—and then break the fold. Next, fold twice the other way, beginning at the left edge, folding towards the right. A note sheet should be folded twice, from the bottom forward. When the envelope used is nearly square, a single fold of the note sheet is sufficient.

Paper. The paper, whether letter or note size, should be the best the writer can afford. Let it be white, or with the faintest tinge possible of blue or cream. Unruled paper is to be preferred.

Esquire. The correct abbreviation is "Esq." not "Esqr.," or "Esqu're." In addresses this word is accepted as the correct title of a gentleman who has no professional title.

Envelopes. In social correspondence, the envelopes, like the paper, should be white and plain, and should correspond to the paper used in size and quality. It is considered bad taste to use colored paper, or other than black ink.

Introduction. Letters of introduction should bear upon the envelopes the name and address of the person to whom the letter is addressed, the same as if sent by mail, and also the words, "Introducing Mr. ————," at the lower left-hand corner.

LESSON 38.

What's done we partly may compute,
But know not what's resisted.—BURNS.

Many a shaft at random sent,
Finds mark the archer little meant.—SCOTT.

Clerks.

in addressing
y superscrip-
rnor and Mrs.
ine; Sir and
itt Talmage;
Howland.

y to write the
r if it reaches

is at the top
upper corner,

et, the sheets

e bottom for-
as to make
men break the
left edge, fold-
twice, from the
square, a single

ould be the
faintest tinge
rred.

"Esqr.," or
correct title of

pes, like the
to the paper
use colored

upon the en-
letter is ad-
"Introduc-

Hints and Helps for Corresponding Clerks.

Mesdames. The contraction of this word is "Mmes." It is the plural of the French *Madame*, and is used in English as the plural of *Mistress* (Mrs.). Any number of spinsters associated in a business firm, in a committee or in any other co-operative body, should be addressed with the pro-title of "Misses"; but if any one of them rejoices in the title of "Mrs.," then the pro-title of the body must be *Mmes.* The salutation in any case should be "Ladies."

Miss. In youth, the masculine of this word is "Master," and in adult age, "Mister" (Mr.). This word should never be used as the salutation of a letter. Not like "Sir," and "Madame," and "General," it cannot be used alone. In addressing a young lady, one must know either her given name or her surname; and with these, one may say, "Miss Mary," or, "Miss Brown," or, "Dear Miss Brown." In writing to strangers, a woman should, in her signature, indicate not only her sex, but also whether she is a "Miss" or a "Mrs."

Mister, Messrs. The plural of "Mr." and of "Esquire" is "Messrs." This is a contraction of the French *Messieurs* (Gentlemen). We say, "Mr. President," "Mr. Speaker," "Mr. Chairman," "Mr. Editor," etc.

Mistress. This, the pro-title of a married woman, is almost always used in the abbreviated form,—Mrs.,—and is pronounced *Misses*. It is sometimes coupled with a husband's title, as "Mrs. Dr. Stone." This use is convenient, but questionable.

Nota Bena. The abbreviation is "N.B.," and the meaning, "note specially." This, like the postscript, follows the completed letter. Business letters should not require added remarks.

Official Letters. In official correspondence, it is better to address the office than the officer, as "To the Secretary of the Interior, etc., Sir," instead of, "To the Hon. B——K——, Secretary of the Interior, etc."

Special Directions, if required, should always be put in brackets to indicate that they are not a part of the address proper.

LESSON 39.

Let us have faith that right makes might ; and in that faith let us, to the end, dare to do our duty, as we understand it.—ABRAHAM LINCOLN.

Things for Letter-Writers to Remember.

No Gentleman or lady ever writes an anonymous letter.

Do not fill your letters with apologies and mere repetitions.

Avoid writing with pencil, or with other than black or blue-black ink.

In Acknowledging the receipt of a business letter give the date of it.

In business correspondence it is better not to write on both sides of the page.

The chief requisites of a business letter are clearness, explicitness and conciseness.

Except in writing dates and sums of money, do not use figures in the body of a letter.

Every business man should keep an exact copy of all business letters which he despatches.

In opening letters containing money, the latter should be immediately counted, and the same noted.

Letters about one's own affairs, requiring an answer, should always enclose a stamp, to pay return postage.

Short sentences are easier to write than long ones, hence more suitable for correspondence.

All letters that are to be answered should be answered promptly. Business letters should be answered the day they are received.

Never write a letter when you are laboring under great excitement ; for you will almost certainly write things that you will repent next day.

EXERCISES.

1. You have a young gentleman friend in St. Louis. Write him, asking what are the chances for a young man of your abilities in that city.
2. You are living in a Western city, and receive a letter from a young friend in the East, such as is described above. Write an advisory letter in reply.
3. You promised to meet a young friend last evening, at the latter's home : you failed to do so. Write him an apology.

LESSON 40.

Men are born with two eyes, but with one tongue, in order that they should see twice as much as they speak.—COLTON.

Answering Advertisements and Applying for Situations.

In applying for a situation by letter, be careful to write neatly and in a good business hand. Let your letter be short and terse, respectful and not servile. State your qualifications and experience modestly and clearly, and in as business-like a tone as possible. Answer all particulars required by the terms of the advertisement. The originals of testimonials should not be sent with a letter applying for a situation. Copy each testimonial on a separate sheet, mark "(copy)" at the top of the page, and enclose with your letter. As a general rule the shorter the application the better.

In ordering goods, state very explicitly the amount, kind, color, size, etc., and on what terms wanted; also whether you wish them sent by freight, express, or mail. Do not write about other business matters in the same letter.

EXERCISES.

1. Write a letter to a wholesale book-dealer, ordering a stock of books.
2. Answer the following advertisements:—

WANTED. Salesmen, first-class, for staples. Pushing and energetic man. State salary and references. Box 205, *Herald* office.

WANTED. A country store to rent. Must be within fifty miles of Boston, and near railway. Will buy small stock. Address Box 421, Worcester, Mass.

WANTED. An experienced traveller for territory west of St. Louis. Grocery business. Apply by letter, stating for whom you have travelled, how long, in what sections of the country, and amount of sales of last year. Liberal salary to a first-class man. W. K. Wiggins & Co., Wholesale Grocers, St. Louis, Mo.

3. You are thinking of moving to Colorado for your health. Write to a friend in Denver asking him to do what he can in the way of securing you a situation as salesman.
4. Write a letter to G. & C. Merriam & Co., Springfield, Mass., ordering 24 copies of Websters Dictionary, and requesting them to draw on you at sight for the amount.
5. Write short advertisements to go under the following newspaper headings: (1) Situations Vacant, (2) Houses to Rent, (3) Business Chances, (4) Farms for Sale, (5) Agents Wanted.

LESSONS 41, 42, 43.

Waiting for a competitor to fail, so as to gain his trade, has never been known to make a man rich ; and starting a business to run another man out is about equally successful.

Valuable Exercises for Practice.

1. Write a social letter to an old schoolmate, discussing your business plans and prospects.
2. What is a title? Mention the proper titles of three persons whom you know, and tell how each title should be abbreviated.
3. Write a letter to an absent friend, giving your opinion of certain public events.
4. Re-write the following envelope addresses, making necessary corrections :—

Mr. Tho's R. Bond Esq'r
963 Broadway St
New York New York

Dr. E. D. Davis M D.
Erie Co. Springville
Box 27 N Y

5. Correct all errors in the following letter, and arrange the parts properly :—
Jan. 29, 1888, Chicago, 242 State St. Messrs. Dombey & Son. 395 Broadway, N. Y., dear sir : your favor of the 20th prox. received to-day enclosing \$19 (nineteen). Accept our thanks for your prompt attention in sending money. We are yours truly, Chas. Daniels & Co.
6. Give an appropriate salutation for a letter to (1) a business firm, (2) an intimate cousin, (3) your teacher, (4) a strange lady, (5) a little boy, (6) an old gentleman whom you know.
7. You are about to visit an intimate friend at a distance. Write a letter giving particulars and naming the train upon which you expect to arrive.
8. Write a letter to Prof. S. S. Packard, 805 Broadway, New York City, asking for an announcement of the school of which he is principal.

9. Write a suitable reply to a letter given in Lesson 35.
10. You are clerking for a retail bookseller. Write a letter to a publisher ordering a stock of school-books.
11. You have just received a monthly statement of your account from a general merchant. Write him a letter enclosing ten dollars to apply on account and asking time on the balance.
12. Write a letter to A. S. Barnes & Co., 111 William St., New York, ordering 30 copies of "Barnes' Brief History of the United States," and requesting them to draw at sight, in 30 days, for the amount of the bill.
13. Messrs. Baker & Jones, 16 West St., Chicago, owe you \$125. Write them a brief note stating that you will draw on them for the amount on the 10th of the following month.

LESSON 44.

People generally are what they are made by education and company between the ages of fifteen and twenty-five.—CHESTERFIELD.

How to Make Out an Account, and Receipt a Bill.

A bill, or an account, is a detailed statement of merchandise sold, or of services rendered. A person who owes money, goods, or services, is called a **debtor**; and the person to whom the money, goods, or services are due, is called a **creditor**. Goods are sold **on account**, or **on credit**, when they are not paid for when delivered.

NOTE.—A bill should state the names of the buyer and seller, the place and time of the transaction, and any special terms agreed upon by the parties. A bill is **received** when the words, "Received Payment," or "Paid," are written at the bottom, and the creditor, or some one acting for him, affixes his name. After an **itemized** bill has been rendered, and not paid, the creditor does not usually make out a second bill complete, but simply the form of a bill, with the words "To Merchandise," "To Labor," or "To Account rendered," and the total amount. This incomplete form is termed a statement. If goods are sold on credit after an itemized bill of a previous purchase has been rendered, the new bill will have the words "To old Account," or "To Account rendered," at the top; that is, if nothing has been paid.

ILLUSTRATIVE EXERCISE.

Transactions.—**Aug. 20, 1887.** Topeka, Kan. Richard Ball buys of C. E. Brown & Co., on account, 26 yds. Silk at \$1.45; 4 yds. Lining at 15 cents; 2½ yds. Lining at 20 cents; 4 yds. Muslin at 11 cents; 2 doz. Buttons at 25 cents; 12 yds. Flannel at 38 cents.—**Oct. 15, 1887.** Richard Ball buys of C. E. Brown & Co., on account, 15 yds. Black Cloth at \$2.10; 5 yds. Tweed at \$1.85.—**Nov. 13, 1887.** Richard Ball pays C. E. Brown & Co., on account, cash, \$45.25.—**Dec. 15, 1887.** Richard Ball pays C. E. Brown & Co., cash, \$42.26, to balance account.

Clerk's Work.—Make out and render an itemized bill, Aug 31; render a statement on Sept. 30; make out the account to be rendered Oct. 31; credit this last bill with the amount paid Nov. 13; render a statement on Nov. 30; receipt this last statement in full Dec. 15.

[ITEMIZED BILL.]

Topeka, Kan., Aug. 31, 1887.

MR. RICHARD BALL,

To C. E. BROWN & CO., DR.

Accounts rendered Monthly.

Aug. 20	26 yds. Silk	@ \$1.45	\$37 70	
	4 yds. Lining	@ .15	60	
	2½ yds. Lining	@ .20	50	
	4 yds. Muslin	@ .11	44	
	2 doz. Buttons	@ .25	50	
	12 yds. Flannel	@ .38	4 50	
				\$44 30

Associate with men of good judgment, for judgment is found in conversation; and we make another man's judgment ours by frequenting his company.—FULLER.

Associate with men of good judgment, for judgment is found in conversation; and we make another man's judgment ours by frequenting his company.—FULLER.

When a clerk receipts a bill, it is customary, and necessary, for him to write his initials under the name of the creditor, or to write his own name, and directly underneath his own name that of his employer, preceded by the word *for*.

[STATEMENT.]

Topeka, Kan., Sep. 30, 1887.

MR. RICHARD BALL,

TO C. E. BROWN & CO., DR.

Accounts rendered Monthly.

To Account rendered Aug. 31 . . .		4430
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[STATEMENT AND BILL]

Topeka, Kan., Oct. 31, 1887.

MR. RICHARD BALL.

TO C. E. BROWN & CO., DR.

Accounts rendered Monthly.

		<i>To Account rendered Sept. 30</i>			44	30
Oct. 15	15 yds. Black Cloth	@ \$2.10	31	50		
	5 yds. Tweed	@ 1.85	9	25		
					40	75
					85	05
		<i>Received Cash, \$45.25.</i>				
		<i>C. E. Brown & Co.</i>				

[STATEMENT.]

Topeka, Kan., Nov. 30, 1887.

MR. RICHARD BALL,

TO C. E. BROWN & CO., DR.

Accounts rendered Monthly.

To Balance of Account	3980
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LESSON 46.

The excesses of our youth are drafts upon our old age, payable with interest about thirty years after date.—COLTON.

How to Keep a Cash Account.

A **cash account** is a record of money received and paid. The simplest form of a cash account has columns at the left for the date, and double money columns at the right. The word **Cash** is written in bold letters over the middle; the abbreviation **Dr.** for *Debtor* over the column for money received; and the abbreviation **Cr.** for *Creditor* over the column for money paid.

[SAMPLE CASH ACCOUNT.]

1887.		Cash.	Dr.	Cr.
Nov. 1	Amount on hand	120 14		
	Paid for stationery			3 45
	Cash sales this day	27 40		
	Balance on hand			144 09
		147 54		147 54
Nov. 2	Balance brought down	144 09		
	Paid clerk's salary			12 50
	Paid Lord & Wood's account			47 62
	Cash sales this day	52 14		
	Balance on hand			136 11
		196 23		196 23
Nov. 3	Balance brought down	136 11		
	Paid for cleaning store			2 50
	Received from H. Ball on acc't	24 50		
	Cash sales this day	51 19		
	Balance on hand			209 30
		211 80		211 80
Nov. 4	Balance brought down	209 30		

LESSON 47.

Books are white paper, unless men spend in action the wisdom they get from thought.—BULWER.

'Tis thought and digestion which makes books serviceable, and gives health and vigor to the mind.—FULLER.

Easy Methods of Book-Keeping.

Book-keeping is that science which teaches how to keep a systematic record of business transactions. Every person who handles cash or merchandise should keep a book of some kind in which to record his transactions. The farmer and the mechanic, as well as the merchant, should keep an account with every person with whom they have business dealings.

A **personal account** is a record of our transactions with a person. In such accounts the word **To** generally precedes each "Dr." item, and the word **By** each "Cr." item. A **current account** is a running or unsettled account. Almost the entire work of book-keeping in a retail store consists of keeping the personal accounts and the cash account. When an article is bought on credit, an entry of it is made by the salesman in a **blotter**,—a rough book which he keeps by him on the counter. At the close of the day, the transactions are **posted** from the blotter into the several personal accounts of the **ledger**. See sample personal account below:—

1887. Thomas Henderson. Dr. Cr.

Aug. 9	To 25 yds. Flannel . . .	.36	9 00	
	2 doz. Silk Buttons . . .	.22	44	
	2 Boys' Suits . \$9 50, 12.00		21 50	
	1 pair Kip Boots . . .		5 00	
Sept. 15	14 yds Print	.09½	1 33	
	22 yds. Drilling	.14	3 08	
	18 yds. Sheeting	.17	3 06	
Oct. 1	By Cash			25 00
	Balance due,			18 41
			43 41	43 41
Oct. 1	To Balance brought down,		18 41	
9	3 prs. Kid Gloves . \$1.25		3 75	
21	5 yds. Tweed	1.30	6 50	
	2 yds. Black Cloth	1.50	3 00	
Nov. 1	By Cash			20 00

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50		
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33		
08		
06		
	25	00
	18	41
41	43	41
41		
75		
50		
00	20	00

RILEY.

LESSON 48.

Those friends thou hast, and their adoption tried,
 Grapple them to thy soul with hooks of steel.—SHAKESPEARE.

Hints and Helps for Accountants. RULES FOR JOURNALIZING.

Capital. *Debit* amounts withdrawn. *Credit* investments.

Loss and Gain. *Debit* losses, expenses, salaries, insurance, exchange, com-
 missions, taxes. *Credit* gains, rebates, etc.

Merchandise. *Debit* goods on hand, purchased, returned by customers,
 discounts allowed customers, freight. *Credit* goods sold, discounts allowed on
 goods bought.

Manufacturing. *Debit* raw material, labor and cost of production. *Credit*
 amount of sales.

Real Estate. *Debit* value at commencement, purchases, improvements.
Credit rents and sales.

Shipments, Consignments. *Debit* amount of shipment or consignment,
 with freight, etc. *Credit* amount of returns.

Cash. *Debit* cash on hand, received. *Credit* cash paid and deposited.

Debtors. *Debit* amount due, amount of goods sold the debtor, and interest
 on overdue account. *Credit* cash or notes received from the debtor, goods
 returned, discounts allowed him, money due him by you.

Creditors. *Debit* money given the creditor, his draft which you accept, goods
 returned him by you, discounts which he allows you. *Credit* amount you owe
 him, goods you buy, interest you owe him on overdue accounts.

Bills Receivable. *Debit* notes on hand and amounts of your drafts accepted
 by others. *Credit* money received in payment of note or acceptance, and amount
 of notes discounted.

Bills Payable. *Debit* notes redeemed. *Credit* notes outstanding which the
 concern owes, notes and drafts signed or accepted by the concern.

Interest and Discount. *Debit* interest paid by the concern, discount allowed
 on bills payable. *Credit* interest paid the concern, discount allowed on bills
 receivable.

MISCELLANEOUS HINTS.

In joint-stock companies the *Capital* Account contains only the investment.
 The gains and losses are distributed among the stockholders in the form of
 dividends.

Interest and discount on notes payable have to do with Interest Account and
 not with Bills Payable Account.

Interest and discount on notes receivable have to do with Interest Account
 and not with Bills Receivable Account.

The proper entry of any transaction may be found in the answer to one of
 the following questions :—

First. What values were received, (Debit,) and from whom or what received?
 (Credit.)

Second. What values were given, (Credit,) and to whom or for what were
 they given? (Debit.)

LESSONS 49, 50, 51.

Train a boy to be brave, and to speak the truth, and you have done your best by him: the rest he must do for himself.—GEN. LEW WALLACE.

Receipts, Orders, Due Bills.

A **receipt** is a written acknowledgment that certain moneys or goods have been received. When a payment has been made, a receipt should be taken as proof of the payment.

\$27³⁰.

Dubuque, Oct. 7, 1887.

Received of Fred W. Rogers twenty-seven and ³⁰/₁₀₀ dollars to apply on account.

Charles Adair.

An **order** is a paper addressed to an individual or to a firm, requesting the payment or delivery of certain moneys or goods on account of the writer.

\$12⁰⁰.

Cleveland, Jan. 5, 1888.

Messrs. King & Wood will please give the bearer, Mr. Thomas Hardy, twelve dollars in goods and charge the same to my account.

Samuel L. Clemens.

A **due bill** is a formal written acknowledgment that a certain amount is due. If payment is to be made in goods the words "payable in goods from my store, on demand," or something similar, should be inserted.

\$19⁰⁰.

Carlin, Ill., June 9, 1887.

Due Colin Fraser nineteen dollars for work done payable on demand.

W. V. Wright.

LESSON 52.

The best education in the world is that got by struggling to get a living. What is defeat?—Nothing but the first step to something better.—WENDELL PHILLIPS.

Percentage.

The name **percentage** is applied to certain arithmetical exercises in which 100 is used as the basis of computation. **Per Cent.** is an abbreviation of the Latin *per centum*, meaning *by the hundred*. This **sign** % is used for the words *per cent*. Thus, 10% of a number equals $\frac{10}{100}$, or $\frac{1}{10}$ of the number; 50% equals $\frac{50}{100}$, or $\frac{1}{2}$, etc.

FRACTIONAL EQUIVALENTS.

$50\% = .50 = \frac{1}{2}$	$16\frac{2}{3}\% = .16\frac{2}{3} = \frac{1}{6}$	$6\frac{1}{4}\% = .06\frac{1}{4} = \frac{1}{16}$
$33\frac{1}{3}\% = .33\frac{1}{3} = \frac{1}{3}$	$12\frac{1}{2}\% = .12\frac{1}{2} = \frac{1}{8}$	$5\% = .05 = \frac{1}{20}$
$25\% = .25 = \frac{1}{4}$	$10\% = .10 = \frac{1}{10}$	$3\frac{1}{3}\% = .03\frac{1}{3} = \frac{1}{30}$
$20\% = .20 = \frac{1}{5}$	$8\frac{1}{3}\% = .08\frac{1}{3} = \frac{1}{12}$	$2\frac{1}{2}\% = .02\frac{1}{2} = \frac{1}{40}$

EXERCISES.

1. What fraction of \$200 is \$5? What per cent.?
2. What is the difference between $2\frac{1}{2}\%$ and $3\frac{1}{2}\%$ of \$800?
3. A clerk who received \$325 a year had his salary raised 40%. What does he receive now?
4. A lawyer collected \$3,264, and charged 5% for his services. How much did he pay over?
5. If goods are bought for \$8,728, and sold for \$9,819, what is the gain per cent.?
6. A merchant marks an article \$2.80, but takes off 5% for cash. If his profit is 33%, what was the cost of the article?
7. What per cent. above cost must a man mark his goods, in order that he may take off 10% from the marked price, and still make 20% on the cost?
8. How many gallons of water must be mixed with $29\frac{1}{2}$ gallons of wine, in order that the mixture may contain $17\frac{1}{2}\%$ of water?
9. An estate dealer sold a house and lot for \$5,620 at $2\frac{1}{2}\%$. What is his commission for selling?
10. A salesman receives $2\frac{1}{2}\%$ of his sales. His sales for a certain week amounted to \$943.50. What was his commission for that week?
11. What must a traveller's sales for one year amount to, that he may, at 3% commission, have a yearly salary of \$2,400?
12. My attorney collected 80% of a debt of \$5,300, and charged $7\frac{1}{2}\%$ commission? What amount should he pay me?
13. A book agent receives a commission of 25% on the gross amount of his sales, \$1 for each book sold, and a salary of \$120 a year. During a certain year he sold 480 books at \$7 each. What was his income for that year?

LESSON 53.

The world generally gives its admiration, not to the man who does what nobody else ever attempts to do, but to the man who does best what multitudes do well.—MACAULAY

Trade Discounts.

When a reduction is made from the *nominal* price of an article, from the amount of a debt, or from the face of a note, it is called a **discount**. Some kinds of merchandise—books, furniture, musical instruments, etc.—have **fixed prices**. Manufacturers and wholesale dealers invoice such merchandise to the **trade**, or retail dealers, at the fixed or **list-prices**. The list-prices are usually the retailer's selling-prices. The manufacturer or wholesale dealer allows the retailer a **trade discount**, which is deducted, at a certain rate per cent., from the face of the **invoice**. The amount of the discount allowed depends sometimes upon the amount of the order, and sometimes upon the terms of settlement. Very often **two** or more **discounts** are deducted in succession. Thus, 10% and 5% off; or, as it is generally expressed in business, 10 and 5 off, means a discount of 10%, and then 5% from what is left; 20, 10 and 5 off, means three successive discounts. A retailer's profit is smaller when he is allowed 10 and 5 off, than if he were allowed 15 off. The result is not affected by the order in which the discounts are taken.

Example 1. Goods are invoiced at \$80, with 20 and 10%. Find cost.

\$80.00	
16.00	Multiply by 2, and carry one place to the right.
64.00	
6.40	Multiply by 1, and carry one place to the right.
\$ 57.60	Ans.

Example 2. Goods are invoiced at \$243.27, with 40, 20 and 5%. Find cost.

\$243.27	
97.308	Multiply by 4, and carry one place to the right.
145.96	
29.192	Multiply by 2, and carry one place to the right.
116.77	
5.833	Take half, and carry two places to the right.
\$ 110.93	Ans.

LESSON 54.

Learn to treat a shabbily dressed customer with as much civility as you manifest towards the richest of your patrons: the dollar you get from each is of the same value.

Trade Discount.—Business Exercises.

NOTE.—Find the retailer's cost price.

1. List price, \$258. Trade discount, 5 and 20 off.
2. List price, \$380. Trade discount, 5 and 30 off.
3. List price, \$649. Trade discount, 50 and 5 off.
4. List price, \$954. Trade discount, 60 and 5 off.
5. List price, \$472. Trade discount, 20 and 3 off.
6. List price, \$684. Trade discount, 10 and 4 off.
7. List price, \$252. Trade discount, 10 and 10 off.
8. List price, \$333. Trade discount, 50 and $12\frac{1}{2}$ off.
9. Invoiced price, \$1,020.45. Discount, 10, 5 and 3 off.
10. Invoiced price, \$2,142.45. Discount, 20, 5 and $2\frac{1}{2}$ off.
11. Invoiced price, \$1,421.60. Discount, 40, 10 and 5 off.
12. Invoiced price, \$2,063.25. Discount, 30, 20 and 10 off.
13. Invoiced price, \$6,021.40. Discount, $33\frac{1}{3}$, 20 and $2\frac{1}{2}$ off.
14. What direct discount is equivalent to a discount of 20 and 10 off.
15. What is the difference on a bill of \$425 between a discount of 50% and a discount of 30% and 20%?
16. A book broker buys books at 20% and 10% from catalogue prices, and sells them at an advance of 10% on catalogue prices. What per cent. profit does he make?
17. A retail bookseller buys at a discount of 20, 10 and 5 off, and sells at list prices. What per cent. profit does he make?
18. A merchant buys furniture at 20% and 10% from list prices, and sells it at 10% and 5% from list prices. What per cent. profit does he make.
19. A Sewing-machine agent buys \$60 machines at a discount of 30% and $16\frac{2}{3}$ %. He sells them at an advance of 5% on the list price. Find his profit on each.
20. The gross amount of a bill of merchandise is \$186.36. What is the net amount, the rates of discount being 30% and 20%?
21. What direct discount is equivalent to a discount of $33\frac{1}{3}$ %, 20% and 1% off?
22. An agent buys 3 pianos, the list prices of which are \$420, \$630 and \$800. He is allowed 20 and 10 off. He sells the pianos at an advance of 50% on the cost prices. Find his total profit.
23. A wholesale dealer sold at a profit of 25% to a retailer, who compromised with his creditors at 40 cents on the dollar. What per cent. did the wholesale dealer lose?

LESSON 55.

You can't find out by figuring what the profits of the coming year's business will be, any more than you can lift a barrel of sugar by figuring on its weight.

Hints and Helps for Invoice Clerks.

An **Invoice** is a detailed statement of merchandise sold by one dealer to another.

Invoices are very different in detail. No rules for the guidance of students can be given. The peculiar methods of any particular business-house can be learned only by actual practice in that house. The exercises which follow are intended for general business-practice.

[SAMPLE INVOICE.]

S. R. WARNER & CO.,
OXFORD, OHIO.

New York, June 3, 1887.

Bought of A. S. BARNES & CO.

TERMS CASH.

12	Sets New National Readers	\$5.75	21 00	
3	Popular History of U.S.	5.00	***	
5	Monteith's Science Primer	1.25	***	
18	Sill's Lessons in English	90	****	
14	Comprehensive Geography	.75	****	
24	Practical Arithmetic	.80	****	
18	Steele's Chemistry	1 20	****	
12	Steele's Physiology	1.20	****	
18	Watson's Elocution	.40	***	

	Less 30 % and 10 %		****	****
36	Dos. Copy Books. Net	.65		****
40	Dos. Drawing Books. Net	.75		****
	Packing			
				75

LESSON 56.

The key to success in any department of life, is self-denial. Idleness, laziness, wastefulness, come from lack of it; while industry, promptitude, economy, thrift and a successful career are the result of it.—NEAL DOW.

Writing Up Invoices.

The student is expected to write up neatly and carefully, after the sample given in the previous lesson, the following bills of goods, supposed to be shipped from wholesale dealer or manufacturer to a retail dealer:—

EXERCISES.

1. **Dry Goods.** Chicago, June 3, 1887. Messrs. E. T. Stone & Co., Grand Rapids, Mich., bought of William Cross & Son, 24 pcs. Gordon Prints, 48 yds. each, at $5\frac{1}{2}$ cents; 18 pcs. Merrimac Prints, 47 yds. each, at $4\frac{1}{2}$ cents; 32 pcs. Standard Prints, 45 yds. each, at 4 cents; 20 pcs. American Prints, 50 yds. each, at 6 cents. Cooperage \$1.25.

2. **Canned Goods.** Wilmington, Del., Jan. 9, 1886. S. W. Clark & Bro., Kansas City, Mo., bought of James Morrow & Son, 5 doz. 3-lb. Peaches at \$2.10; 4 doz. 6-lb. Peaches at \$3.45; 4 doz. 3-lb. Tomatoes at \$1.90; 3 doz. 2½-lb. Apricots at \$3.90. Less 5% for cash. Cooperage 90 cents.

3. **Books.** Philadelphia, Pa., Feb. 3, 1886. Canada Publishing Co., Toronto, Ont., bought of J. B. Lippincott Co., 15 Dickens, People's Edition, 15 vols., at \$22.50; 7 George Eliot, 20 vols., at \$35; 13 Thackeray, Globe Edition, 12 vols., at \$15; 14 Charles Reade, 17 vols., at \$21.25; 36 The "Duchess" novels at \$1. Less 40%, 10%, and ½%. Cooperage \$1.20. (A certified invoice necessary.)

4. **Groceries.** Baltimore, Md., March 12, 1886. James R. Wallace & Co., Syracuse, N.Y., bought of H. Chisholm & Co., 3 bbls. Granulated Sugar at \$7.50; 17 boxes Raisins at \$1.75; 4 boxes Layer Raisins at \$2.15; 15 lbs. Spice at 16 cents; 24 boxes Currants at \$1.40; 2 bags Rio Coffee at \$27.20; 2 bbls. Syrup at \$18.50; 12 lbs. Nutmegs at 90 cents. Special discount 10 and 5 off. Cartage \$1.50.

5. **Fruit.** Rochester, N.Y., Aug. 13, 1886. S. R. Riley & Co., Jacksonville, Ill., bought of H. P. Wallace & Son, 273 bbls. Winter Apples at \$1.15; 136 bbls. Fall Apples at \$1.05; 362 bush. Plums at \$2.12½; 163 baskets Peaches at 63 cents; 428 baskets Pears at 42 cents. Less 20%. Cartage \$12.85.

6. **Flour and Feed.** Montreal, Que., April 15, 1886. Edwin Ball, Sherbrooke, Que., bought of Thompson Watt & Co., 13 bbls. Best Flour at \$5.30; 14 bbls. No. 2 Flour at \$4.75; 32 bbls. Pork at \$18.90; 942 lbs. Hams at 13 cents; 432 bush. Oats at 31 cents; 15 cwt. Bran at 55 cents. Less 33½%, 10% and 2%.

7. **Hardware.** Toronto, Ont., March 13, 1886. Hugh Cleland, Meaford, Ont., bought of Rice Lewis & Son, 200 Carriage Bolts at \$2.25 per C.; 150 Carriage Bolts at \$3.15; 5 doz. R.S.K. Knives at \$2.14; 4½ doz. Pieced Bread Pans at \$2; 15 Eureka Stoves at \$14.90; 13 Royal Coal Stoves at \$18.40; 6 Iron Posts at \$1.30. Less 7% for cash.

LESSONS 57, 58.

Many men do not allow their principles to take root, but pull them up, every now and then, as children do flowers they have planted to see if they are growing.—LONGFELLOW.

Valuable Exercises for Practice.

1. In an invoice just received from a wholesale dealer you find an error in addition. Write a letter to the wholesale dealer, calling his attention to the matter.
 2. As corresponding clerk for the wholesale dealer, write a suitable reply to the foregoing letter.
 3. One of your salesmen is about to move to a distant city. Write him a letter of recommendation.
 4. A young friend of yours has recently been elected mayor of a western town. Write him a short congratulatory letter.
 5. You are paid secretary of the Board of Trade of your city. Write a letter to the Board, tendering your resignation.
 6. You are a young man beginning business for yourself. Write a letter to a wholesale dealer with whom you desire to open an account. Give references, and state what terms of payment you propose.
 7. The traveller of a wholesale firm is on the road. Write him a letter from the firm relative to his movements from this date.
-
8. Find the cost of insuring a cargo of goods for \$12,000 at $\frac{3}{4}\%$.
 9. A man's resources are \$4,800 and his liabilities \$7,200. How much can he pay on the dollar?
 10. A bankrupt merchant pays $37\frac{1}{2}$ cents on the dollar. How much will be lost by a creditor whose bill is \$750?
 11. A merchant bought a bankrupt stock at 45 cents on the dollar, and sold it 10% below the original price. How much per cent. did he gain?
 12. A, B, and C are partners. A puts into the concern \$6,000, but withdraws half of it at the end of 6 months; B puts in \$4,000, and adds \$1,000 to it at the end of 4 months; C puts in \$5,000 for the whole year. The gain during the year is \$5,100. What is each one's share?
 13. Two men, M and N, are associated in trade. M receives \$25 a month and 10% of sales for managing the business. the net gain is then divided equally. Their sales for a certain year amount to \$9,320, and their books show a gain of \$4,220 before M's special interest is paid. Find N's share of the net gain.
 14. If I compromise with an insolvent debtor at 70 cents on the dollar, and then discount 2 % for the immediate payment, what is my total loss on a claim of \$6,500?
 15. Find the duty on a shipment of books from the United States to Canada, invoiced at \$324.20, at 15%.

LESSON 59.

Money and time are the heaviest burdens of life; and the unhappiest of all mortals are those who have more of either than they knew how to use.—JOHNSON.

How to Collect a Debt.

The **best way** to avoid having outstanding accounts is to do a strictly **cash business**. Mark your goods at your very lowest prices and then part with them only for cash. It is absolutely necessary, however, for dealers in many branches of trade to give credit.

Send goods abroad to be paid for **C.O.D.** If goods are sold on **instalments**, or to be paid for at a certain time, let the time be specified, and the collection made promptly on that day. When difficulty is experienced in collecting an account, get the same, if possible, converted into a **promissory note**; notes are more easily handled and collected. Whether the course to be pursued in collecting a debt be sharp and positive or mild and lenient, will depend entirely on circumstances. **Write a letter** calling attention to the account, stating the time when the obligation was due, and accompanying the same with a bill of the goods bought; then if necessary, a **second letter**, more pointed and asking immediate settlement. If you cannot collect the whole debt ask your debtor to pay part and arrange at the time a date for the payment of the balance. A payment in part is an acknowledgment of the whole.

EXERCISES.

1. Write a letter to a delinquent customer, enclosing statement of his account, and calling his attention to the same.
2. The person to whom you have written has given your letter no attention. Write him a second letter more pointed than the first.
3. Put yourself in the debtor's place and write a suitable reply to above letters, enclosing cash in part payment of the account and asking time on the balance.
4. Answer the foregoing, acknowledging the receipt of the money and granting the request, but stipulating a certain date for the balance to be paid.
5. Prepare a circular to be sent out to all customers whose accounts are overdue, requesting them to pay before a certain day, and notifying them of a proposed change in the management of your business.
6. Write a letter to your largest wholesale creditor, calling his attention to the dulness of trade in your town at this season, and asking for a renewal of the note which you gave him three months before.

LESSON 80.

Checks.

In **indorsing** checks, note the following directions;—

1. Write *across* the back—not lengthwise.

2. The **top** of the *back* is the *left* end of the *face*. Do not indorse wrong end up.

3. To *deposit* a check, write your name *across* the back.

4. Write your name on the back in the same way as it appears on the face. For instance, if the check is payable to "T. Walmsley," indorse "T. Walmsley;" if to "Thos. Walmsley," indorse "Thos. Walmsley;" and if to "Thomas R. Walmsley," indorse in the same way. If the spelling of your name is wrong, indorse twice, spelling your name wrong and right.

5. If you wish to make the check payable to some particular person by indorsing, write

Pay to

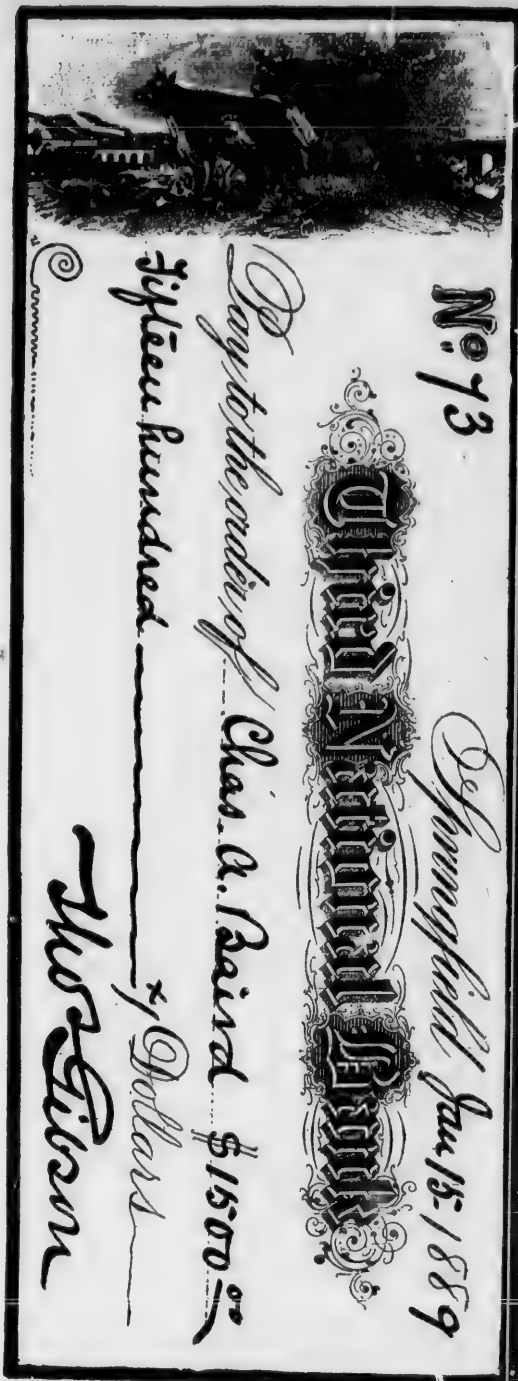
.....
(Person's name.)

or order.

.....
(Your own name.)

Simply writing your name on the back of a check signifies that it has passed through your hands and is payable to **bearer**.

Do not give your check dated ahead, nor take one dated that way.



LESSON 61.

He is not great who is not greatly good.—SHAKESPEARE.

We must take the current when it serves, or lose our ventures.—SHAKESPEARE.

There is a divinity that shapes our ends, rough-hew them how we will.—SHAKESPEARE.

Hints on Advertising.

Does advertising pay? It does if done discreetly and carefully. Thousands of merchants and manufacturers are losing money daily in advertising, while others are piling up wealth as the direct results of their advertisements.

Do not advertise simply because your neighbor on the right does so. If you have something that the people want and that they don't know about, tell them of it, and state your price. Never mind your neighbor.

The most effective means of reaching the people is through the newspapers. The day of usefulness of handbills is passed. A visit to any rural fair will convince you of this.

Make your advertisements attractive, so that the people will notice and read them. Excite a little legitimate curiosity about your goods. Nothing draws like curiosity. John Wanamaker, the great Philadelphia merchant, tells a million people daily what is going on in his store, if it be only the putting up of a new shelf or the painting of a door.

Study the methods of successful advertisers. Writers of good advertisements are scarce, and nothing but careful study will make you a success in this department of business.

Determine how much you can afford to spend in advertising, and place your advertisements where they will do the most good, making your contracts for a period of months.

A single insertion of an advertisement is of very little value, usually money thrown away. You must keep your name and goods continuously before the public, and keep them interested in what you are doing, the new goods you are buying, the changes you are making, the goods you are selling, and your prices.

Never promise more than you can fulfil. Bombastic announcements may do for a time, but nothing except hard, solid facts will live.

EXERCISE.

You are agent for all kinds of agricultural implements. Prepare a suitable advertising circular to be sent to the farmers of your immediate locality.

No. 73

THE
PHILADELPHIA
MERCHANT
JAN 15-1889

LESSON 62.

Checks.

In Great Britain and the Provinces the printed form of checks is made **payable to bearer**. It is customary in Canada to cross out "bearer," and write "order." When a check is drawn payable to *bearer*, it is payable to the person holding it.

To get a **check cashed**, present it first to the Ledger-Keeper, who turns to the bank account of the person who signs the check, deducts the amount from the account, stamps and signs the check, and returns it. The check is then said to be **marked**; and the bank, and not the person signing it, is responsible for its payment. Then present it to the Paying Teller of the same or any other bank, and the face amount will be paid in cash. Persons unknown to the Paying Teller must be **identified** before money is given them.

If you desire to **draw money from your own account**, write the check as follows :—

Pay to the order of.....Self.....

or

Pay to the order of.....Cash.....

and sign the check in the ordinary way, writing the date, amount, etc., as you would in any other check.

Pay to the order of *James Dall* — *£142 2/3*
One hundred and forty two — 2/3 Dollars
No 39 —
Thos Moore



National Bank

London Dec 5 1889

LESSON 68.

If the power to do hard work is not a talent, it is the best possible substitute for it.—JAMES A. GARFIELD.

The 60-Day Interest Method.

In what is called the **60-Day Method**, 360 days are considered one year, and 30 days one month. Upon this basis the interest for 60 days, or two months, at any rate, will be $\frac{1}{2}$ of the interest for one year; and when the rate is 6% the interest for 60 days is 1% or $\frac{1}{100}$ of the principal. Thus, the interest of \$247 for 60 days at 6% is \$2.47.

Example 1. Find the interest of \$1,728 for 80 days at 6%.

\$17	28=interest for 60 days.	The interest of \$1,728 for 60 days at 6% is 1% of \$1,728, or \$17.28; and the interest for 20 days ($\frac{1}{3}$ of 60) is $\frac{1}{3}$ of \$17.28, or \$5.76. Hence for 80 days it will be \$17.28 plus \$5.76, or \$23.04.
5	76=interest for 20 days.	
\$23	04=interest for 80 days.	

Example 2. Find the interest of \$1,260 for 106 days at 6%.

\$12	60=interest for 60 days.	Cut off two places to the right.
6	30=interest for 30 days.	$\frac{1}{2}$ of \$12.60=\$6.30.
2	10=interest for 10 days.	$\frac{1}{3}$ of \$6.30=\$2.10.
1	26=interest for 6 days.	$\frac{1}{5}$ of \$6.30=\$1.26.
\$22	26=interest for 106 days.	

NOTE.—Any number of days can be divided into convenient parts. Thus, to find the interest for 158 days, we could take twice 60 or 120, then 30, which is $\frac{1}{2}$ of 60; then 5, which is $\frac{1}{6}$ of 30; then 3, which is $\frac{1}{3}$ of 30.

Example 3. Find the interest of \$2,340 for 3 mos, 27 days at 7%.

\$23	40=interest for 60 days or 2 months.	
11	70=interest for 30 days or 1 month.	
7	80=interest for 20 days.	$\frac{1}{2}$ of \$23.40=\$7.80.
2	34=interest for 6 days.	$\frac{1}{3}$ of \$11.70=\$3.90.
	39=interest for 1 day.	$\frac{1}{30}$ of \$2.35=.39.
\$45	63=interest for given time at 6%.	
7	61=interest for given time at 1%.	$\frac{1}{10}$ of \$45.63=\$4.56.
\$53	25=interest for given time at 7%.	

NOTE.—Add 1 cent when the fraction is $\frac{1}{2}$ or more.

NOTE.—To find the interest at 8 per cent., add $\frac{1}{4}$ of the interest at 6 per cent. to itself; at 9 per cent., add $\frac{1}{5}$; at 10 per cent., add $\frac{1}{6}$; at 5 per cent., subtract $\frac{1}{6}$; at 4 per cent., subtract $\frac{1}{6}$; etc.



London Dec 5-1889

LESSON 84.

Notes.

If Perry Mason & Co. desire to have this **note discounted** at a bank, or if they wish to transfer it to a third person or firm, they will have to **indorse** it. The note is payable at the place named on the day of maturity.

To get a **good title** to negotiable paper the holder must have received it in good faith for value.

A **note** may be written on any paper with ink or with pencil, and it will be good. A note made on Sunday is void.

Notes bear **interest** only when so stated, except after maturity.

When negotiable paper is **lost** or **stolen**, it does not release the maker.

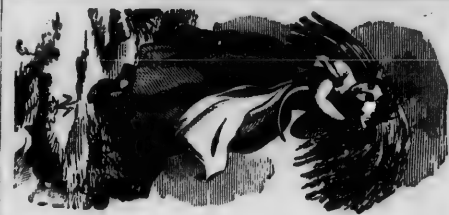
Notes obtained by **fraud**, or made by a person while intoxicated cannot be collected.

The **maker** of an **accommodation note** is not bound to the person accommodated; but he is bound to any other person receiving the note for *value*.

The **holder** of a note has a claim against every person who has indorsed it.

If a **note** or a **check** received in payment of a debt is dishonored, the debt revives.

Ignorance of the law does not excuse any one. No **contract** is good unless there be a consideration. No consideration is good that is illegal.



B. WILLIAMS & CO., BOSTON.

No. 5

Due

A. Lincoln

Value received

to the order of Perry Mason & Co.

Thirty-two Dollars

\$ 32⁵⁰

Aug. 9 / 88

Sixty days after date I promise to pay

LESSON 65.

When you set out to do anything never let anything disturb you from doing that one thing. This power of putting the thought on one particular thing, and keeping it there for hours at a time, takes practice; and it takes a long time to get into the habit.—THOMAS A. EDISON.

Accurate Interest.

Interest is the sum charged for the use of money. It is really the *use of money* or the benefit derived from its use. The **principal** is the sum for the use of which interest is paid. The **rate of interest** is the *per cent.* of the principal charged for its use for *one year*. **Simple interest** is the interest on the principal only, for the full time; **compound interest** is interest on the principal for the full time, and interest on each interest payment after it becomes due.

To find the accurate interest on any sum of money at a given rate for one year, multiply the sum by the rate and divide by 100.

To find the accurate interest on any sum of money at a given rate for any given number of days, multiply the interest for one year by the number of days and divide the product by 365.

EXERCISES.

NOTE.—It is required to find the interest.

1. Prin., \$200; time, 2 yrs.; rate, 6 %.
6. Prin., \$400; time, 73 dys.; rate, 4 %.
2. Prin., \$347; time, 3 yrs.; rate, 7 %.
7. Prin., \$212; time, 48 dys.; rate, 3 %.
3. Prin., \$621; time, 1½ yrs.; rate, 2½ %.
8. Prin., \$300; time, 64 dys.; rate, 2 %.
4. Prin., \$237; time, 4 yrs.; rate, 4 %.
9. Prin., \$200; time, 33 dys.; rate, 5 %.
5. Prin., \$843; time, 5 yrs.; rate, 5 %.
10. Prin., \$621; time, 95 dys.; rate, 6 %.

NOTE.—In the exercises which follow, consider the time even months.

11. What is the interest of \$240 from June 3, 1887, to Aug. 3, 1887, at 6 %?
12. What is the interest of \$425.80 from Sept. 15, 1887, to Nov. 15, 1888, at 2 %?
13. What is the interest of \$125.50 from May 15, 1886, to Dec. 15, 1887, at 4 %?
14. What is the interest of \$480.40 from June 18, 1884, to Aug. 18, 1884, at 5 %?

NOTE.—In the exercises which follow, reckon the interest for the exact number of days. Count one of the two days named and all the days intervening.

15. Prin., \$1,200; rate, 3 %; time, Jan. 3, 1886, to Mar. 15, 1886.
16. Prin., \$1,520; rate, 4 %; time, Dec. 5, 1886, to Apr. 18, 1887.
17. Prin., \$1,736; rate, 5 %; time, Nov. 9, 1886, to May 27, 1887.
18. Prin., \$2,190; rate, 2½ %; time, Sept. 4, 1885, to July 19, 1888.
19. Prin., \$4,380; rate, 3½ %; time, Dec. 3, 1885, to Mar. 21, 1887.
20. Prin., \$3,625; rate, 1½ %; time, Oct. 2, 1885, to May 17, 1887.
21. At how much a month should I rent a house which cost me \$3,200, that I may receive 6 % per annum upon the sum expended?

Sixty down after date
Aug. 9 / 88

LESSON 63.

Bank drafts are nearly always drawn on banks in large cities—money centres, such as New York, Chicago, St. Louis, etc. Now suppose that you live at Fredericton, Mo., and you wish to send \$544 to John E. Bryant, Springfield, Ill. You go to your town bank, and fill out your order for a draft in favor of John E. Bryant for the above amount. The cashier, Charles Dickens, writes up the draft for you and charges you 25 cents for doing so.

He writes a draft on a Chicago bank because his bank has money on deposit there. Local banks keep money on deposit with banks in large cities. This draft can be cashed at Springfield or any other city or town.

		244 ⁰⁰
STATE OF MASSACHUSETTS.		No. 203
State National Bank		
<i>Pay to the order of</i> John E. Bryant		
<i>Two hundred and forty-four</i>		
<i>Dollars.</i>		
To the MOUNT VERNON NATIONAL BANK,		
<i>Chicago</i>		
ORIGINAL		
<i>Charles Dickens</i>		
Cashier.		

LESSON 67.

His words are bonds, his oaths are oracles,
His love sincere, his thought immaculate ;
His tears pure messengers, sent from his heart,
His heart as far from fraud as heaven is from earth.

—SHAKESPEARE.

Bank Discount.

The sum charged by a **bank** for cashing a note or time draft is called **bank discount**. This *discount* is the simple interest, paid in advance, for the number of days the note has to run. Wholesale business houses usually sell goods on **time** and take notes from the retailers in payment. These notes are not often for a longer period than **three months**. Some are placed in the banks for *collection*, others are **discounted**. When a note is discounted at a bank the *payee* **endorses** it, making it payable to the bank. Both maker and payee are then responsible to the bank for its payment. If the note is drawing interest the discount is reckoned on and deducted from the amount due at maturity. Most notes discounted at banks do not draw interest. The **time** in bank discount is always the number of days from the *date of discounting* to the *date of maturity*.

Example. A note of \$250, dated July 7, payable in 60 days, is discounted July 7 at 6% ; find the proceeds.

This note is due in 63 days, or September 8. The accurate interest of \$250 for 63 days at 6% is \$2.59. The proceeds, then, will be \$250 - \$2.59, or \$247.41.

EXERCISES.

NOTE.—Find the proceeds; compute accurate interest.

1. Face, \$340 ; time, 3 months ; rate of discount, 6% ; date of note, March 13 ; date of discount, March 13.
2. Face, \$400 ; time, 4 months ; rate of discount, 6% ; date of note, May 24 ; date of discount, May 24.
3. Face, \$300 ; time, 5 months ; rate of discount, 6% ; date of note, April 13 ; date of discount, April 13.
4. Face, \$420 ; time 2 months ; rate of discount, 8% ; date of note, June 3 ; date of discount, June 3.
5. Face, \$1,000 ; time 4 months ; rate of discount, 7% ; date of note, July 24 ; date of discount, Aug. 3.
6. Face, \$1,200 ; time, 3 months ; rate of discount, 5% ; date of note, Aug. 15 ; date of discount,, Aug. 30.
7. Face, \$2,410 ; time, 3 months ; rate of discount, 9% ; date of note, Sept. 14 ; date of discount, Oct. 3.

LESSON 68.

Drafts.

A **draft** is a written order by one person on another for the payment of a specified sum. Drafts on foreign countries are called *Bills of Exchange*.

A **bank draft** is a written order by one bank on another for the payment of a specified sum to a person named therein, or to his order. A bank draft can be cashed at almost any banking house.

Drafts are made payable at sight, on demand, or at a certain time after date, or after sight. Drafts are usually presented to the person on whom they are drawn, for his **acceptance**. He *accepts* by writing across the face the word, "Accepted," with the date over his signature.

A draft when **accepted** is the same as a note, and the laws governing one govern the other.

A **draft** on two persons who are partners need be presented to but one of them.

A **draft** does not bind any one until it is accepted.

The accompanying draft is a **bank draft**. It is intended to be cashed in Rutland, Vt., but Fred W. Rogers can get money for it at any banking house. When a draft has been presented for acceptance or payment, and it has been refused, it is said to have been **dis-honored**.

WILLIAMS & CO., BOSTON.



\$ 976 ⁰⁰/₁₀₀

C. L. CROCKER & CO.

CASHIERS

Cambridgeport, Mass.

June 19, 1886

Pay to the order of

Fred W. Rogers

Nine hundred and seventy-six Dollars

to the National Bank of Redemption
RUTLAND, VT.

Charles Carter,

Cashier.

LESSON 69.

Try to find out the business for which you are best adapted, and stick to that one thing. A young man should have a real love, amounting to a passion, for his calling.

The 60-Day Interest Method.

EXERCISES.

NOTE.—Find the interest by the 60-day method.

1. Prin., \$245 ; rate, 6% ; time, 18 ds.
2. Prin., \$368 ; rate, 6% ; time, 14 ds.
3. Prin., \$725 ; rate, 6% ; time, 15 ds.
4. Prin., \$463 ; rate, 6% ; time, 16 ds.
5. Prin., \$842 ; rate, 6% ; time, 19 ds.
6. Prin., \$520 ; rate, 6% ; time, 27 ds.
7. Prin., \$368 ; rate, 6% ; time, 33 ds.
8. Prin., \$863 ; rate, 6% ; time, 37 ds.
9. Prin., \$721 ; rate, 7% ; time, 48 ds.
10. Prin., \$484 ; rate, 7% ; time, 69 ds.
11. Prin., \$285 ; rate, 7% ; time, 73 ds.
12. Prin., \$393 ; rate, 5% ; time, 86 ds.
13. Prin., \$685 ; rate, 5% ; time, 89 ds.
14. Prin., \$268 ; rate, 4% ; time, 95 ds.
15. Prin., \$936 ; rate, 8% ; time, 99 ds.
16. Prin., \$481 ; rate, 9% ; time, 42 ds.

NOTE.—The interest for years and months is found by the 60-day method, by multiplying the interest for 60 days, or two months, by one-half the number of months.

17. Prin., \$4,253 ; time, 1 yr. 3 mos. 19 ds. ; rate, 7%.
18. Prin., \$5,631 ; time, 2 yrs. 5 mos. 25 ds. ; rate, 8%.
19. Prin., \$4,280 ; time, 3 yrs. 7 mos. 18 ds. ; rate, 10%.
20. Prin., \$3,216 ; time, 4 yrs. 10 mos. 29 ds. ; rate, 2½%.

NOTE.—In many examples labor can be saved by having the time and principal change places. Thus, instead of finding the interest of \$600 for 139 days, find the interest of \$139 for 600 days. The result will be identical.

21. A man pays \$375 a year rent for a house worth \$5,400. Will he gain or lose, and how much, in 4 years, if he borrows money at 7% to purchase the house?

22. A house which cost \$4,600 rents for \$24 a month. What is the net rate per annum of interest received on the investment if the average annual expense is \$18?

23. Find the interest of \$453.60 from Sept. 5, 1887, to June 13, 1888, at 9%. (60-day method.)

24. What is a banker's gain in 2 years on \$12,000 deposited at 5% and loaned 22 times at 1¼% a month?

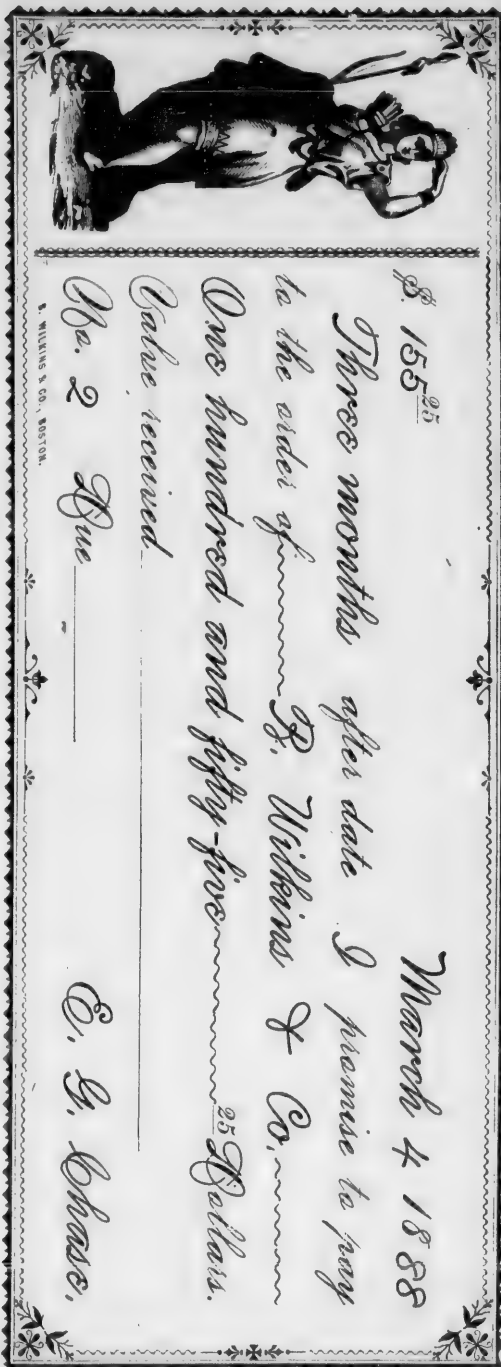
25. A tradesman marks his goods with two prices, one for ready money and the other for a credit of 6 months. What fraction of the credit prices should the cash prices be, allowing 5% simple interest?

26. I bought a piece of property for \$3,600 and agreed to pay for it in 8 months with interest at 8%. What amount will be due at the expiration of the time?

LESSON 70.

Notes.

A **note** is a written promise to pay a specified sum at a certain time. The person who *promises* is called the **maker**, and the person to whom he promises is called the **payee**. The **face** of a note is the sum of money promised. A **negotiable note** is one which is made payable to the bearer, or to the order of the payee. A negotiable note can be sold or transferred. A note is **non-negotiable** when it is payable only to the person or persons named in the note. An **indorser** of a note is a person who writes his name on the back of it. The person who indorses, by so doing guarantees its payment. An **indorsement in blank** is simply the signature of the indorser written across the back of the note or draft. When indorsed in this way the note or draft is made payable without further indorsement to any person holding it. A note or draft is **indorsed in full** when the indorser states, over his signature, the person to whose *order* the note or draft is to be paid. If an indorser does not wish to guarantee the payment of a note or draft, he writes "Without recourse" over his name when indorsing. A **protest** of a negotiable note or draft is a formal statement by a notary public that said note or draft was presented for payment or acceptance and refused. A note, when due, must be presented at the place at which it is made payable. The **day of maturity** is the day on which a note becomes due. The **days of grace** are the *three days* beyond the specified time usually allowed for payment.



LESSON 71.

Checks.

A **bank check** is a draft on a banking house or on a bank, and is usually presented for payment.

Checks are not considered as actual payment until they are cashed, but in course of business are regarded as cash.

Checks are usually drawn payable to order, and, thus drawn, a check is negotiable; that is, it can be transferred from one person to another.

The **amount** must be written twice, —once in figures and once in words. Checks are usually **numbered**, as issued, in one of the left-hand corners.

The accompanying check is drawn on the Manufacturers National Bank of Whitehall, N.Y., where John Adair has money deposited. It is in favor of A. Riley. Note that the money item and words begin at the extreme left. If this check were for *seven* dollars, and the "seven" written where it is, it could easily be forged to make "Two hundred and seven," or "Ninety-seven," or any sum ending with seven; or if there were not an ink-line following the "seven," it might be changed to "seventy." A. Riley will have to indorse this check before he can get it cashed. See rules for indorsing.

EXERCISES.

1. Write a check on the Boston National Bank in favor of William Thompson, or order, for ninety dollars and seventeen cents. Put yourself in Thompson's place, and indorse this check, making it payable to the order of A. Ward.

2. Write a check on the First National Bank, Chicago, in favor of Thomas R. Hardy, or order, for eighteen dollars. Put yourself in Hardy's place, and indorse the check in blank.



No 24
Whitehall, N.Y. July 1889
THE
Manufacturers National Bank
Pay to the Order of A. Riley \$207.²⁰
Two hundred and seven 20/100 dollars
John Adair

155²⁵

March 4 1888

LESSON 72.

Checks.

If W. H. Huston wishes to get this check cashed, he will write "W. H. Huston" across the back; if he wishes to give it to Colin Fraser in payment of an account, he will write on the back, "Pay to Colin Fraser, or order," and sign his name. Colin Fraser will then have to write his name under the above before he can get the check cashed.

Checks should be presented for payment within a reasonable time.

A bank cannot charge payment of a **forged** check to the one whose name is forged to it.

The **signature** should always be written in the same way.

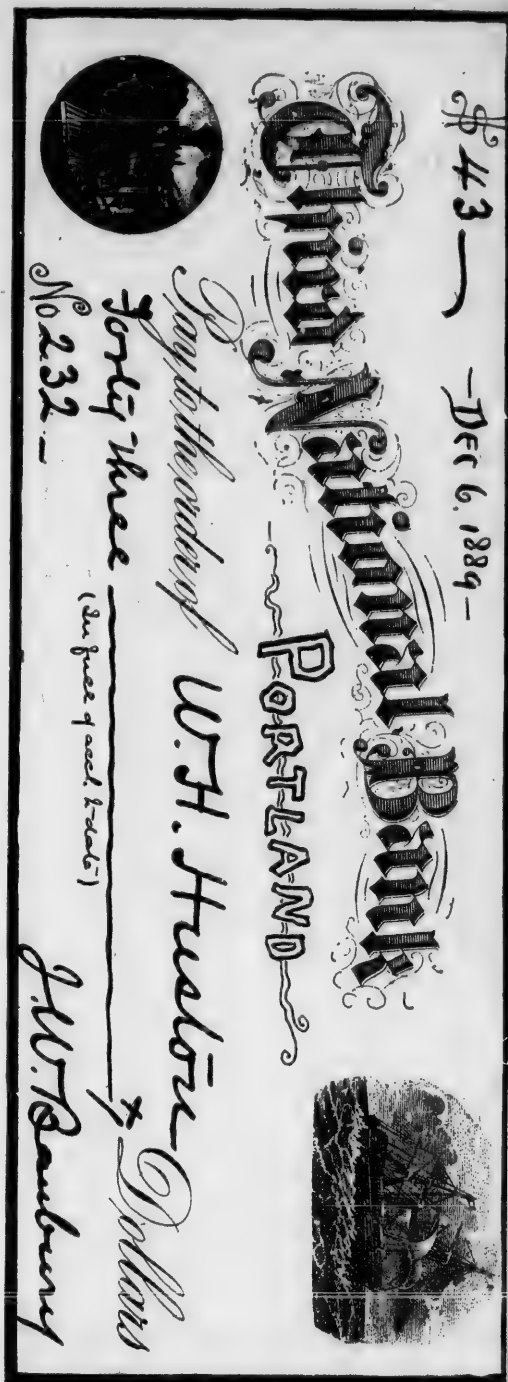
Banks return old checks to the maker at the end of each month. They serve as **receipts** for all amounts paid in this way.

The **number** of every check, the **name** of the person in whose favor it is drawn, the **amount**, the **date**, and for **what given**, should be entered in the margin of your **check-book** before the check is torn off.

If you have a check payable to your order, do not indorse it until you wish to deposit or use it.

Never accept or give a check or note without carefully reading it.

Words indicating for what the check was given may be written under the amount, as in the accompanying check.



LESSONS 73, 74, 75, 76, 77, 78, 79.

No abilities, however splendid, can command success without intense labor and persevering application.—A. T. STEWART.

REVIEW LESSONS.

73. Correspondence.

You have received a monthly statement of your account from a general merchant. Write him a letter enclosing ten dollars to apply on account and requesting time on the balance. Write a suitable reply to the letter you have just written.

74. Business Composition.

You are one of twenty-five citizens desiring certain improvements on one of the streets of your town. Draw up a letter to the mayor and aldermen, placing the matter before them and requesting their attention thereto.

75. Bills and Accounts.

On May 13, 1887, you sell Alfred Hunt a bill of dry goods amounting to \$47, and on June 25 another bill amounting to \$24. On June 12 he gives you a check for \$35 to apply on account. Write up the first bill; make out a statement June 1; receipt the statement for the amount paid June 12, and make out a second statement July 1. Put yourself in Hunt's place and write the check.

76. Lumber Measurement.

A plank sidewalk 18 feet wide and 2 inches thick is to be built around a block 5 chains square. What will the lumber cost at \$18 per thousand?

77. Building.

If one thousand laths cover 70 yards of surface, and 11 pounds of lath nails nail them on, what will it cost to lath the walls and ceiling of a school-house 42 feet long, 30 feet wide and fourteen feet high, at \$2 a thousand for laths, 6 cents a pound for nails, and $3\frac{1}{2}$ cents a yard for labor?

78. Commercial Law.

Give some particulars of the law in your State or Province regarding (1) Leases, (2) Mechanics' Liens, (3) Promissory Notes, (4) partnerships. Explain the terms: negotiable, indorser, acceptance, protest. How does a sight draft differ from a check? If a note falls due on Sunday when is it legally due? Why are the words "value received" inserted in notes? What does an endorser do by his act? When is a note due, if dated Jan. 31 and made at one month?

79. Advertising.

Your spring stock of dry goods has just arrived. You have many season novelties and a great variety of miscellaneous articles. Write five short reading notices and one large advertisement intended for your town newspaper, announcing the character and prices of your merchandise.

\$43—
—Dec 6, 1889—
Memorial Book

LESSONS 80, 81, 82, 83, 84, 85, 86.

The secret of success is constancy of purpose.—BENJAMIN DISRAELI.

REVIEW LESSONS.

80. Correspondence.

You are corresponding clerk for a wholesale firm, who have just received from a country merchant a letter ordering goods on credit. Write a reply, declining to open an account and giving reasons. Make it very polite.

81. Correspondence.

Write a letter to a wholesale house, acknowledging the receipt of part of the goods which you ordered, specifying some which have not arrived, and some which are not equal to the samples shown you by their traveller.

82. Correspondence.

Write a letter to some prominent person with whom you are acquainted, or have been employed, asking for a letter of recommendation. Write a letter of recommendation for a young man seeking employment.

83. Business Paper.

You owe your hired man, Thomas Kingsley, eighteen dollars wages. Write him an order on G. C. Watson & Co., grocers for the amount, payable in groceries from their store.

84. Loss and Gain Exercise.

You had on hand at the beginning of the year, furniture valued at \$58204.55; bought during the year, \$7319.40; sold during the year, \$8420.90; furniture destroyed by fire during the year, \$1094; on hand at the close of the year, furniture valued at \$5620; received insurance on furniture destroyed, \$875; paid insurance expenses, \$27. How much did you gain or lose on furniture during the year?

85. Abbreviations.

Explain the meaning of each of the following abbreviations: At., o/, Do., Com., Bbl., Fol., Inst., Prox., Ult., Mdse, #, Per, C.O.D.

86. Partnership.

X, Y, and Z formed a partnership to carry on a milling business. X owned the site, valued at \$1500; Y put up the building, worth \$2400; and Z put in the machinery, costing \$3000. They ran the mill for one year on this basis, and then agreed to take equal shares in it; but meantime the value of the land had increased 20%, the value of the building had decreased 10%, and the worth of the machinery had depreciated 25%. Who should pay the other, and how much?

LESSONS 87, 88, 89, 90, 91, 92, 93.

Be cautious and brave. It requires a great deal of will and a great deal of caution to make a great fortune, and when you have got it, it requires ten times as much wit to keep it.—BARON ROTHSCHILD.

REVIEW LESSONS.

87. Business Papers.

Chicago, July 20, 1887. T. D. Wood borrows \$231 from R. S. Hamilton, and gives his note at ninety days in payment. Write this note; make it payable to bearer. When will it be due? If interest were charged at 6%, how much would be due at maturity?

88. Business Papers.

Hamilton, Oct. 19, 1888. J. W. Banbury buys goods to the amount of \$25.90 from S. R. Eastman & Co., and gives his check on the Bank of Montreal in payment. Write this check; make it payable to order. Indorse the check making it payable to the Toronto Furniture Co.

89. Business Papers.

Baltimore, March 3, 1887. S. E. Grover buys of S. G. Pryor 320 barrels of flour at \$5.20, and gives in payment cash \$1000; balance on account. Make out S. E. Grover's bill. Receipt it.—S. G. Pryor draws a draft at thirty days' sight on S. E. Grover, Portland, for the balance of his account. The draft is in favor of E. J. Garrison, Troy. Write the draft. Accept it for S. E. Grover. Date, April 5.—Troy, April 8, 1887. E. J. Harrison has the draft discounted in the Traders' Bank at 10% and receives cash in return. Indorse the draft for E. J. Garrison. How much cash should he receive?

90. Business Papers.

Write a receipt for a monthly payment of rent of your store on State Street, amounting to \$47.50.

91. Business Papers.

W. V. Wright, Hamilton, orders by telegraph from Eldridge Bros., Philadelphia, 25 Hart's Composition (75 cents), and 50 Huston's Chemistry (\$1). Write the message for W. V. Wright. Write the invoice for Eldridge Bros. (Discount 35%). Write a letter acknowledging receipt of books.

92. Business Papers.

Eldridge Bros. draw (date Aug. 3) on W. V. Wright at 30 days after date, their own favor, and have the draft discounted at the Third National Bank at 8%. Write the draft. Accept it for W. V. Wright. Indorse it for Eldridge Bros. What is the date of maturity? Find the cash proceeds.

93. Business Papers.

Write a due bill for the balance of your account \$19.20 due Carlos Carson & Co.

LESSONS 94, 95, 96, 97, 98, 99, 100.

Seest thou a man diligent in his business? He shall stand before kings: he shall not stand before mean men.—BIBLE.

REVIEW LESSONS.

94. Business Composition.

Your townspeople are going to have an appropriate celebration on the Fourth of July, and you have been appointed by a committee to prepare a subscription paper to secure voluntary contributions to defray expenses. Write a suitable heading for the paper.

95. Furnishing.

How many yards of carpet, 27 inches wide, will be required for a hall 11 feet 3 inches wide and 64 feet long?

What will it cost to kalsomine a room 26 feet by 14 feet and 9½ feet high, at 7 cents a square yard?

96. Correspondence.

You are a wholesale commission merchant in Chicago. Write an advisory letter to a farmer friend, who proposes to sell his farm and invest in a flour and feed business in your city.

97. Advertising.

There have been some changes in the name and working of the firm of which you are a member. Prepare a circular letter to be sent to your customers, informing them of the changes and soliciting a continuance of their patronage.

98. Business Stationery.

Print on letter or note paper what you consider a neat business letter heading for (1) a retail merchant, (2) a wholesale or dry-goods merchant, (3) a real-estate, loan and insurance agent, (4) a manufacturing concern, (5) a book publisher.

99. Business Papers.

Write in a neat business form (1) a firm promissory note, (2) a time draft, (3) a bank check, (4) an order, (5) a due bill, (6) a receipt.

100. Business Composition.

Write a composition of about two hundred words on one of the following subjects: (1) Business Ethics, (2) Success and Failure in Business, (3) Cash and Credit Systems, (4) Citizenship.

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Memoranda.

ONE HUNDRED LESSONS IN BUSINESS.

Part II.

Short Cuts in Figures

A. RILEY,
Publisher,
175 Shaw St., Toronto, Ont.

EDITOR'S NOTE.

Every person has more or less to do with figures, and everything likely to make his labor in this direction easier and shorter should be received with favor. Labor-saving machinery is in demand, yet ninety per cent. of those who have had telephone and typewriter for years, do their "figuring" by the laborious process of half a century ago. I admit that most of the short methods of arithmetic explained in text-books, ready-reckoners and lightning calculators, are of little, if any, use. There are, however, many *short cuts*, which every person should know. Those who desire to become familiar with them should study these pages carefully.

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SHORT CUTS IN FIGURES.

RAPID AND ACCURATE ADDITION MADE EASY.

It is important that business men and accountants be accurate and rapid in **addition**. One small error in footing up an account may throw the total out several hundred dollars. Let accuracy be the first consideration, then drill, drill, drill, until you can add rapidly. Rapid adders are usually the most accurate. Write the numbers in **vertical lines**. Irregularity in the placing of figures is the cause of many errors. **Think of results** and not of the numbers themselves. Thus, do not say 4 and 5 are 9, and 6 are 15, and 7 are 22, etc.; but 9, 15, 22, etc. Make **combinations** of 10, or other numbers, as often as possible, and add them as single numbers. Thus in adding

$$9 + 3 + 4 + 7 + 8 + 2 + 1 + 4 + 9 + 5 + 4 + 8 + 2 + 1 + 2 + 3$$

this line, say, 9, 16, 26, 33, 42, 51, 61, 67, taking each group at a glance, as a single number.

Where a number is repeated several times, multiply instead of adding. In adding **horizontally**, begin at the **left**, since the eye is more accustomed to moving from right to left than from left to right. In adding **long columns**, prove the work, by adding each column separately in the opposite direction, before adding the next column. Many accountants put down **both figures** as in the illustration. The sum of the first column is

2321	
4235	19
3498	20
4223	15
7232	21
21509	

19; carrying *one* the sum of the second is 20; carrying *two*, the sum of the third column is 15; carrying *one*, the sum of the fourth column is 21, and the total, 21509, is found by calling off the last two figures and the right hand figures, following the wave line in the illustration. This method is better than

the old one of penciling down the number to *carry*. If one desire to

go back and add a certain column a second time, the number to carry is at hand and the former total is known. When numbers are in regular **arithmetical order**, as 3, 4, 5, 6, 7, or 2, 4, 6, 8, 10, or 5, 10, 15, 20, etc., to find their sum, add the first and last, take half and multiply by the number of numbers. The half sum represents the middle or average numbers. For instance, suppose you want to find the sum of all the numbers from 51 to 97 inclusive, you would proceed as follows:

$$51 + 97 = 148 \quad \frac{1}{2} \text{ of } 148 = 74$$

$$97 - 51 + 1 = 47 \quad 74 \times 47 = 3478$$

The sum of the first and last is 148, and half of this is 74. To find the number of numbers subtract 51 from 97 and add 1, which gives 47. Then 47 times 74 is the desired sum.

The rapidity of thought is much beyond the power of speech, and a person of ordinary memory, who is familiar with a paragraph which is read, can anticipate what is to follow in its order, and in his own mind, keep several sentences in advance of the spoken words of the reader. Variations in the order of the nine digits can be made to the number of 362,880; but only ninety changes are required in order to add each digit to each of the other eight and to itself; and these may be so thoroughly memorized that the sum of two or more numbers is instantly presented to the mind when the eye sees them for that purpose. After sufficient experience, the mind grasps the figures almost unconsciously, and the result is reached as quickly as the eye can glance along the line with attention. In practising the **reading of a column of figures**, pass the eye over the figures as if you were reading a sentence, slowly at first, increasing the speed as proficiency is acquired. Practise a half hour each day, and the result will astonish you. Remember that the ability to add rapidly is of more value to business men than is a knowledge of any other department of arithmetic.

ADDITION: Civil Service Method

Here is a method of addition which may be new to young men who have not had a varied office experience —

\$2432.29	
3698.46	
5210.84	
213.51	
3298.25	
2160.32	
1231.00	
<u>2105.20</u>	
	27
	26
	27
	32
	20
	18
	\$20,349.87

Add each column independently of the other columns. Thus the sum of the numbers in the first column is 27; in the second, 26; in the third, 27, and so on. This method is made use of by civil-service employees, bank clerks, and others who handle large sums of money. A clerk who has to add a column of figures behind a wicket and listen at the same time to the talk of half-a-dozen persons who are waiting their turn in front of him, must of necessity exercise the greatest care. He can prove his work and detect the exact location of an error by this method quite easily —

THE LIGHTNING CALCULATOR'S ADDITION.

There are experts who can add very rapidly. The best of them however, cannot add up a column of *ones* any faster than you can. Here is how some of the "rapid addition" is worked. The "professor" writes a line of figures, then another, and so on. The second line, however, added to the first makes *nines*, except at the extreme right, where the two figures add to *ten*. The third and fourth bear the same relation, and as many more as he chooses to put down. The last two

lines, however, are put down at random. Now, to add these columns, he begins anywhere, perhaps at the left hand side, putting down 2 (the number of *pairs* above), then by simply adding the two bottom lines, he gets the correct sum. Try this.

Student's Notes:

76543 25 7
 98736 35 8
 49562 26 8
 74397 33 3
 62345 20 2
 68734 28 1
 24683 23 5
 35796 32 5
 24685 21 7
 34567 25 7
 92843 26 8
 642895 21 7

HOW TO PROVE ADDITION IN TEN SECONDS.

This *proof* of **addition** is now published for the first time. Nothing more simple or practical has ever been made public. It is a modification of the old method of casting out the *nines*:

$$\begin{array}{rcl}
 234213 & = 15 = & 6 \\
 349842 & = 30 = & 3 \\
 456312 & = 21 = & 3 \\
 987645 & = 39 = 12 = & 3 \\
 527337 & = 27 = & 9 \\
 428569 & = 34 = & 7 \\
 436852 & = 28 = 10 = & 1 \\
 \hline
 3420770 & = 28 = & 5
 \end{array}
 \left. \vphantom{\begin{array}{rcl} 234213 \\ 349842 \\ 456312 \\ 987645 \\ 527337 \\ 428569 \\ 436852 \end{array}} \right\} = 32 = 5$$

It takes a good many figures to explain this rule, but very few to apply it. Add the *figures* in each line. The first adds to 15, and the sum of these two figures (1+5) is 6. The second line adds to 30, and 3+0 equals 3. The third line adds to 21, and 2+1 equals 3. The fourth line adds to 39 and 3+9 equals 12, and 1+2 equals 3. In each case keep on adding until you have reduced the line to one figure. Now find the sum of all these *unitates* and we get 32, which gives (3+2) a final unitate 5. Then find the *unitate* of the *answer* and you will get 23, which gives (2+3) a final *unitate*, 5. If the *addition* is correct, the final *unitate* will be the same. Note the example below:

$$\begin{array}{rcl}
 9876 & = 30 = & 3 \\
 8949 & = 30 = & 3 \\
 5678 & = 26 = & 8 \\
 9843 & = 24 = & 6 \\
 2698 & = 25 = & 7 \\
 3987 & = 27 = & 9 \\
 5425 & = 16 = & 7 \\
 \hline
 46456 & = 25 = & 7
 \end{array}
 \left. \vphantom{\begin{array}{rcl} 9876 \\ 8949 \\ 5678 \\ 9843 \\ 2698 \\ 3987 \\ 5425 \end{array}} \right\} = 43 = 7$$

You will find that after a little practice it will not be necessary to write down more than the last line of figures, or the *unitates*.

TO MULTIPLY ANY NUMBER BY 11.

Write the first right-hand figure, add the first and second, the second and third, and so on; finally write the left hand figure. Carry when necessary.

$$358425 \times 11 = 3942675$$

Put down the right-hand figure 5. Then say, 5 and 2 are 7; then, 2 and 4 are 6; then, 4 and 8 are 12, put down 2 and carry 1; then, 8 and 5 and 1 are 14, put down the 4 and carry 1; then, 5 and 3 and 1 are 9; then write the left-hand figure 3. In multiplying small numbers, such as 23 by 11, write the sum of the two figures between the two figures, making 253, the required product.

TO MULTIPLY BY 101, 1001, etc.

To multiply by 101, add two ciphers to the multiplicand, and add to this the multiplicand,

$$2563 \times 101 = 256300 + 2563$$

To multiply by 1001, add three ciphers to the multiplicand, and add to this the multiplicand.

$$2563 \times 1001 = 2563000 + 2563$$

TO MULTIPLY NUMBERS ENDING WITH 5.

To multiply two small numbers each of which ends in 5, such as 35 and 75, take the product of the 3 and 7, increase this by one-half the sum of these figures, and prefix the result to 25. Thus—

$$\begin{array}{r} 35 \quad 5 \times 5 = 25 \\ 75 \quad 7 \times 3 = 21, 21 + \frac{1}{2} (7 + 3) = 26 \\ \hline 2625 \end{array}$$

This rule, though the working of it seems complicated, is very simple. Apply it to the following exercises;

- | | |
|-------------------|--------------------|
| 1. 45×85 | 6. 75×25 |
| 2. 25×35 | 7. 75×55 |
| 3. 95×25 | 8. 95×85 |
| 4. 35×65 | 9. 65×25 |
| 5. 85×55 | 10. 35×45 |

The Complement Rule

The complement of a number added to the number makes it 10, or 100, or 1000; etc. The complement of 96 is 4, and

$$96 \dots\dots 4$$

$$97 \dots\dots 3$$

$$9312$$

of 97 is 3. Now to multiply these two numbers, multiply the complements, and place the product, 12, in the answer. Then for the

other two figures subtract across, either the 4 from the 97 or the 3 from the 96. Apply this rule to the following: 994×995 . 989×998 . 976×999 . 954×998 . 988×997 .

Student's Notes:

887
5
18
12
12

TO MULTIPLY ANY NUMBER BY 21, 22, 23, 24, Etc.

This rule applies to numbers of two figures each, the first figure of which is 2. Multiply each figure in the multiplicand by the units figure of the multiplier, adding to each separate product double the figure to the right of the one multiplied; add the tens to the last figure doubled. In this example say:

$$\begin{array}{r} 21302 \\ 23 \\ \hline 489946 \end{array}$$

Three twos = 6. Three times 0 = 0, and double the right-hand figure, 2, = 4. Three times 3 = 9, and double the next figure, 0 = 9. Three times 1 = 3, and double the next figure, 3 = 9. Three times 2 = 6, and double the next figure, 1, = 8. Then double the left-hand figure, 2, = 4. In multiplying by the *twenty's* never use any other method.

TO MULTIPLY ANY NUMBER BY 21, 31, 41, Etc.

In multiplying any number by 21, or 31, or 401, or any number of two figures where the last is one, or of three figures, where the last two figures are 01, a good deal of time can be saved by abbreviating the ordinary process as here illustrated. For instance, suppose we have to multiply 231423 by 21. Instead of putting down 231423 with 21 under it, then drawing a line, multiplying by 1, then by 2 or 20, then adding, as is the ordinary custom; all that is necessary is simply to multiply by the 2, placing the product, one figure to the left, and then to add. Try this method, using 31, 51, 61, 91, 201, 3001, and 901 as multipliers. There is a saving in the above example of eight figures.

$$\begin{array}{r} 231423 \\ 4628460 \\ 4859883 \end{array}$$

TO MULTIPLY BY 9, 99, 999, Etc.

It is easier for most people to subtract than to multiply. Instead of multiplying by 9, we multiply by 10 and subtract the number from this product.

$$\begin{array}{r} 8759632 \times 9 = 87596320 \\ \quad \quad \quad 8759632 \\ \hline \text{Product,} \quad = 78836688 \end{array}$$

To multiply by 99, add two ciphers and subtract; to multiply by 999, add three ciphers and subtract; etc.

The Lowell Multiplication Rule,

$$\begin{array}{r} 63 \\ 48 \\ \hline 3024 \end{array}$$

8 times 3 are 24. Put down both figures. Add one to the second figure of the multiplier $4+1=5$. Then say 5 times 6 are 30. Put down both figures.

The rule is simple; the application of it is almost as simple: Note the numbers to which it applies:

21 22 23 24 25
29 28 27 26 25 In the twenties.

31 32 33 34 35
39 38 37 36 35 In the thirties.

41 42 43 44 45
49 48 47 46 45 In the forties.

And to similar numbers in the fifties, sixties, seventies, etc. The rule applies in every case where the right hand figures add to ten and the left hand figures are the same.

The complement of 8 is 2—now by taking 2 instead of 3 the products by cross-multiplication are equal. $2 \times 6 = 3 \times 4$. It is a rule applies to all numbers, no matter of what size, to which this test will apply.

$$\begin{array}{r} 63 \\ 48 \\ \hline 3024 \end{array}$$

THE LOWELL MULTIPLICATION RULE:—Exercises.

NOTE.—This rule as stated on the preceding page applies in all cases “where the right hand figures are the same and the left hand figures add to 10.” It also applies in all cases (of two figures) where the figures of the multiplicand are the same, and the figures of the multiplier add to 10; for example, 22×37 , or 22×55 , or 33×73 , or 44×64 , or 66×73 , etc. The *sub* rule may be stated thus: Multiples of 11 may be multiplied by a number whose digits add to 10; also in any case where the multiplier is a multiple of 11, the sum of the digits of the multiplicand is a multiple of 5. Note exercises below:—

1. 22×28	26. 17×13	51. 22×28	76. 96×66
2. 23×27	27. 15×15	52. 22×19	77. 36×26
3. 42×48	28. 19×11	53. 22×37	78. 36×18
4. 55×55	29. 18×12	54. 22×46	79. 93×39
5. 61×69	30. 14×16	55. 22×55	80. 93×68
6. 24×26	31. 21×29	56. 22×82	81. 32×66
7. 39×31	32. 74×76	57. 22×91	82. 86×47
8. 25×25	33. 75×75	58. 22×73	83. 31×68
9. 32×38	34. 81×89	59. 22×64	84. 31×97
10. 33×37	35. 92×98	60. 33×28	85. 84×29
11. 41×49	36. 88×82	61. 44×37	86. 84×67
12. 47×43	37. 85×85	62. 44×73	87. 28×16
13. 51×59	38. 91×99	63. 33×55	88. 82×49
14. 46×44	39. 97×93	64. 33×91	89. 26×17
15. 45×45	40. 96×94	65. 44×82	90. 69×27
16. 53×57	41. 87×83	66. 55×82	91. 69×44
17. 52×58	42. 86×84	67. 55×73	92. 24×18
18. 56×54	43. 95×95	68. 66×37	93. 24×42
19. 68×62	44. 46×27	69. 66×28	94. 68×36
20. 67×63	45. 99×82	70. 77×37	95. 23×44
21. 79×71	46. 96×38	71. 77×73	96. 64×38
22. 66×64	47. 88×73	72. 77×55	97. 21×46
23. 65×65	48. 43×84	73. 99×82	98. 21×67
24. 72×78	49. 32×94	74. 99×64	99. 21×48
25. 73×77	50. 23×61	75. 88×55	100. 63×29

101. 63×48	111. $74 \times 38\frac{1}{2}$	121. 147×48	131. 124×126
102. 48×34	112. $93 \times 48\frac{1}{2}$	122. 184×98	132. 132×138
103. 48×26	113. $87 \times 46\frac{1}{2}$	123. 146×77	133. 193×197
104. 48×18	114. $34 \times 70\frac{1}{2}$	124. 126×86	134. 294×296
105. 14×22	115. $42 \times 38\frac{1}{2}$	125. 328×88	135. 395×395
106. 13×24	116. $63 \times 38\frac{1}{2}$	126. 246×49	136. 155×126
107. 13×31	117. $49 \times 17\frac{1}{2}$	127. 43×121	137. 246×127
108. 42×86	118. $37 \times 17\frac{1}{2}$	128. 53×151	138. 591×599
109. 42×29	119. $61 \times 39\frac{1}{2}$	129. 62×242	139. 792×798
110. 39×24	120. $98 \times 37\frac{1}{2}$	130. 84×143	140. 993×997

TO MULTIPLY 124 BY 104, Etc.

124
104
12896

Multiply the excesses—that is, 24 by 4—and put down the product, 96, two places to the right hand side, as in the illustration. Then add the two numbers, 104 and 124, omitting one of the *ones* at the left. Carry where necessary.

1102
1007
1109714

Multiply the excesses, 102 and 7, placing the product, 714, three places to the right. Then add as in the preceding exercise.

- | | |
|---------------------|------------------------|
| 1. 137×102 | 6. 1312×1003 |
| 2. 127×103 | 7. 1009×1008 |
| 3. 123×105 | 8. 1265×1002 |
| 4. 115×107 | 9. 1119×1005 |
| 5. 142×102 | 10. 1003×1224 |

TO MULTIPLY 37 BY 43; 54 BY 68, Etc.

The *mean* number—that is, the number which is as much greater than 37 as it is less than 43—is forty. Forty squared, or multiplied by itself, gives 1600. The square of 3, the difference between the mean number and one of the numbers, is 9. $1600 - 9 = 1591$ = the product of 37 and 43. Apply this rule to the exercises below :

- | | |
|-------------------|----------------------|
| 1. 87×73 | 6. 112×108 |
| 2. 63×57 | 7. 116×124 |
| 3. 22×18 | 8. 115×105 |
| 4. 93×87 | 9. 117×123 |
| 5. 42×38 | 10. 198×202 |

TO MULTIPLY BY 5, 25, 125.

To multiply by 5, add a cipher and divide by 2.
To multiply by 25, add two ciphers and divide by 4.
To multiply by 125, add three ciphers and divide by 8.

TO MULTIPLY 128 BY 122, Etc.

$$\begin{array}{r} 128 \\ 122 \\ \hline 15616 \end{array}$$
 The same rule that applied to multiplying 74 by 76 applies here. Twice 8 are 16, and 12 times (12 + 1, or) 13 are 156.

In this example we say 8 times 2 are 16, and write down both figures, then to get "1560," say 40 times 39, which can easily be done mentally. The rule is the same as the one you have already learned. Try the exercises below.

$$\begin{array}{r} 392 \\ 398 \\ \hline 156016 \end{array}$$

- | | |
|---------------------|----------------------|
| 1. 104×106 | 6. 192×198 |
| 2. 112×118 | 7. 293×297 |
| 3. 127×123 | 8. 394×396 |
| 4. 124×126 | 9. 595×595 |
| 5. 111×119 | 10. 993×997 |

TO MULTIPLY ANY NUMBER BY 13, 19, 104, Etc.

The rule for this is similar to that already given except that the figure 1 is the first figure of the multiplier instead of the last.

$$\begin{array}{r} 20213 \times 13 \\ 60639 \end{array}$$

$$\begin{array}{r} 20213 \times 104 \\ 80852 \end{array}$$

$$262769 = \text{product.} \quad 2102152 = \text{product.}$$

Instead of writing down 13 and multiplying by this number in the ordinary way, simply multiply by 3 placing the product one figure to the right. In the second example, multiply by 4, and place the product two figures to the right. Practise this method by using 17, 103 and 109 as multipliers.

TO MULTIPLY BY THE 'TEEN'S.

To multiply any two numbers between 12 and 20, the following will be found valuable. *To one of the numbers add the unit's figure of the other, and affix a cipher; increase this result by the product of the two unit's figures, and this will give the product required.*

$\begin{array}{r} 17 \\ 19 \\ \hline 323 \end{array}$	$\begin{array}{r} 19 + 7 = 26, \text{ say } 260 \\ 7 \times 9 = 63 \\ \hline 323 \end{array}$
---	---

This rule will be found of very little value in written arithmetic, but in *mental* work it extends the multiplication table to 19 times 19.

TO MULTIPLY 76 BY 46, ETC.

This rule applies to numbers of two figures each, when the left-hand figures are the same. Multiply units by units for the first figure

$$\underline{46} \quad 6 \times 6 = 36, \text{ carry } 3$$

$$76 \quad 6 \times (7 + 4) = 6 \times 11 = 66, \text{ and } 3, 69.$$

$$\underline{3496} \quad 4 \times 7 = 28 \text{ and } 6 \text{ to carry } 34.$$

of the product, the sum of the tens by units for the second figure, and tens by tens for the third figure, carrying where necessary. Apply this method to the exercises below:

1. 67×56

6. 82×62

2. 72×32

7. 33×43

3. 94×44

8. 93×73

4. 65×75

9. 27×37

5. 87×57

10. 45×95

Student's Notes:

PROOF OF MULTIPLICATION IN TEN SECONDS.

Here is a simple *proof* of multiplication which is a modification of the old method of casting out the nines. The *unitate* of a number is the sum of its digits reduced to a unit. Note these examples:

$$\begin{aligned} 24562 &= 19 = 10 = 1 \\ 398469 &= 39 = 12 = 3 \\ 400298 &= 23 = 5 \end{aligned}$$

The sum of the digits of the first number is 19; these digits added equal 10, and these added equal 1. Note the following example in multiplication:

$$\begin{array}{r} 252 = 9 \\ 321 = 6 \end{array} \left. \vphantom{\begin{array}{r} 252 \\ 321 \end{array}} \right\} = 54 = 9$$

$$\begin{array}{r} 252 \\ 504 \\ 756 \\ \hline 80892 = 27 = 9 \end{array}$$

The *unitate* of the multiplier is 9 and the *unitate* of the multiplicand is 6; 6 times 9 equals 54, and the *unitate* of 54 is 9. Now the *unitate* of the product is found to be 9 also, which is a proof of the correctness of the work. Note this example:

$$\begin{array}{r} 7598 = 29 = 11 = 2 \\ 3463 = 16 = 7 \end{array} \left. \vphantom{\begin{array}{r} 7598 \\ 3463 \end{array}} \right\} = 14 = 5$$

$$\begin{array}{r} 22794 \\ 45588 \\ 30892 \\ 22794 \\ \hline 26311874 = 32 = 5 \end{array}$$

It is not necessary to write down as many figures as are written above. The *unitate* of each number can easily be found mentally.

SHORT METHOD OF MULTIPLYING LARGE NUMBERS.

People object to *short cuts* because they forget them? If, however, they had been made as familiar with the short method as with the long method when at school, the former would be as easily remembered and much more satisfactory than the latter. The rule of which the following is an explanation applies to a large number of numbers.

Example 1.—Multiply 2043 by 427.

NOTE.—Note the multiplier; one part of it, 42, is a multiple of the remainder. Whenever this occurs the method explained below will apply.

2043

$$427 = 420 + 7 = (7 \times 60) + 7.$$

$$14301 = 2043 \times 7.$$

$$858060 = 2043 \times 420 = 14301 \times 60.$$

872361 *Product.*

NOTE.—We first multiply by 7, then by 420, thus taking the number 2043 437 times. The contraction is made by multiplying by 420. We take its factors, 7 and 60; we have already multiplied by 7, so that all that remains to be done is to multiply 14301 by 60 and place it under. The sum of the two partial products gives the whole product.

Example 2.—Multiply 3142 by 972.

3142

$$972 = 900 + 72 = 900 + (9 \times 8).$$

$$2827800 = 3142 \times 900.$$

$$226224 = 3142 \times 72 = 28278 \times 8.$$

3054024 *Product.*

Example 3.—42013 by 14412.

40012

$$14412 = 14400 + 12 = (12 \times 1200) + 12.$$

$$504156 = 42013 \times 12.$$

$$604987200 = 42013 \times 14400 = 504156 \times 1200.$$

605491356 *Product.*

EXERCISES.

- | | |
|-----------------------|---------------------------|
| 1. 2013 $\times$ 927. | 6. 21401 $\times$ 729. |
| 2. 1213 $\times$ 279. | 7. 31252 $\times$ 14412. |
| 3. 3135 $\times$ 728. | 8. 42001 $\times$ 70357. |
| 4. 2146 $\times$ 287. | 9. 15421 $\times$ 81273. |
| 5. 3210 $\times$ 189. | 10. 30012 $\times$ 94572. |

ENGLISH INVOICES TO AMERICAN MONEY. MONTREAL METHOD.

Invoices of goods bought in English Markets are in pounds, shillings and pence. The money items have of course to be changed to our currency. When money is at par value, and for nearly all practical purposes, the following is the best and shortest method of reducing English money to dollars and cents:

Begin by reducing the **shillings and pence to the decimal of a pound** as follows: *Write one-half of the greatest even number of shillings as tenths, and if there be an odd shilling, write five hundredths; reduce the pence to farthings and write their number as thousandths. If the number of farthings is between 12 and 36, add one to the thousandths; if between 36 and 48 add two to the thousandths.*

$$£3\ 14s\ 6d = £3.725.$$

NOTE.—Divide 14 by 2 and put down 7; then multiply 6 by 4 and add 1, getting 25.

$$£4\ 15s\ 10d = £4.7\frac{5}{8}2 = £4.792.$$

The pound sterling is equal to \$4.86 $\frac{2}{3}$. Now 80 is $\frac{1}{5}$ of 400, 6 $\frac{2}{3}$ is $\frac{1}{12}$ of 80. Then, to multiply by 486 $\frac{2}{3}$, multiply by 400; divide the product by 5 and place the quotient under; then divide the quotient by 12, and place the second quotient under the first. Add, and the sum will be the same as though the number were multiplied by 4.86 $\frac{2}{3}$ in the ordinary way.

Find the value of £3.725 in dollars and cents.

$$£3.725 \times 4.86\frac{2}{3} = \text{Ans.}$$

	£3.725
	4
5	14.900
12	2.980
	.248
	\$18.128

Multiply by 4 for the dollars. Then divide this product by 5, which is equivalent to multiplying £3.725 by 80; then divide 2.98 by 12, which is equivalent to multiplying £3.725 by .06 $\frac{2}{3}$

HANDLING FRACTIONS: CASH BOY'S METHOD.

The **fractional arithmetic** used in ordinary merchandizing is usually very simple. The youth who can tell what one-quarter of a pound of tea is worth when he knows the price of a pound, or who can find the value of $2\frac{1}{2}$ yards of print at $12\frac{1}{2}$ cents a yard, has a fair start in the fractions of commercial arithmetic.

$$\frac{1}{4} + \frac{1}{3} = \left\{ \begin{array}{l} 4 + 3 = 7 \\ 4 \times 3 = 12 \end{array} \right\} = \frac{7}{12}$$

Note the above exercise in **addition**. Here there are two fractions, and the numerator is 1 in each case. To find their sum, add 4 and 3 for their numerator, and multiply them for the denominator. To find their difference, subtract 3 from 4 for the numerator, and multiply them for the denominator. Apply this rule to other examples.

To multiply any number containing $\frac{1}{2}$, such as $7\frac{1}{2}$, $19\frac{1}{2}$, $12\frac{1}{2}$, etc., by itself, multiply the whole number by the next higher whole number, and annex $\frac{1}{4}$ to the product.

To multiply two fractional numbers, such as $7\frac{1}{4}$ by $7\frac{3}{4}$, multiply 7 by 8, and add to the product the product of $\frac{3}{4}$ by $\frac{1}{4}$, or $\frac{3}{16}$, and you have the correct result.

To multiply two fractional numbers, each containing $\frac{1}{2}$, such as $5\frac{1}{2}$ by $7\frac{1}{2}$, add the product of the whole numbers plus $\frac{1}{4}$ to one-half of the sum of the whole numbers. This is a valuable rule.

To multiply two fractional numbers, each containing $\frac{3}{4}$, such as $11\frac{3}{4}$ by $13\frac{3}{4}$, to the product of the whole numbers add the product of their sum by $\frac{3}{4}$, after which add the product of $\frac{3}{4}$ by $\frac{3}{4}$. This rule applies to all cases where both fractions are the same.

EXERCISES.

1. Find the cost of $8\frac{1}{2}$ pounds of sugar at $8\frac{1}{2}$ cents a pound.
2. Find the cost of $18\frac{1}{2}$ pounds of coffee at $19\frac{3}{4}$ cents per pound.
3. Find the cost of $5\frac{1}{2}$ yards of print at $9\frac{1}{2}$ cents a yard.
4. Find the value of $22\frac{3}{4}$ yards of flannel at $20\frac{3}{4}$ cents per yard.

CONTRACTED MULTIPLICATION OF DECIMALS.

For business purposes two places of decimals are sufficient. Hence, much unnecessary labor is frequently performed in commercial calculations, which may be avoided by the following method of cutting off all decimal places, in both numbers, which produce others that fall below the *hundredths* place. To illustrate, find the cost of $32\frac{1}{2}$ yards of cloth at $42\frac{3}{4}$ cents per yard.

$\begin{array}{r} 32^{25} \\ 42^{75} \\ \hline 1\ 6125 \\ 22\ 575 \\ 64\ 50 \\ \hline 12.90\ 0 \\ \hline \$\ 13.786875 \end{array}$	$\begin{array}{r} 32^{25} \\ 5724 \\ \hline 12.90 = 322 \times 4 + 2 \\ 64 = 032 \times 2 + 0 \\ 22 = 03 \times 7 + 1 \\ 2 = 0 \times 5 + 2 \\ \hline \$13.78 \end{array}$
---	--

The first operation represents the long method, the fractions having been reduced to decimals. In the second the order of the figures in the multiplier is reversed, but the units (2) still remain under the units (2). Multiply one figure to the right simply to find out how many to carry.

FRENCH AND ITALIAN METHODS OF DIVISION.

There are a few **short methods of Division**. The work, however, can be contracted, and considerable labor saved. In the **French Method**, the divisor is placed on the right of the dividend, and the quotient below the divisor. In the **Italian Method**, each product is subtracted mentally from its partial dividend, and only the difference written down. This method, after a few trials, will be found quite easy and practical.

HOW TO ADD TWO COLUMNS AT ONCE.

To the inexperienced it will be a difficult task to add two columns at once, but many of those who have daily practice in addition find it about as easy to add two columns as one. Say 99 and 50 are 149, and 6 are 155, and 10 and 50 are 215 and 3 are 218, and 12 are 230. Carry 2, and say 33 and 12 are 45, and 20 are 65, and 6 are 71, and 30 are 101, and 2 are 103, 23 are 126.

FIVE NEW POINTS FROM IOWA.

NOTE. These valuable points were contributed by a business man of Shelby, Iowa. The rules for multiplying will be found particularly helpful.

1. To multiply two figures by two figures, proceed as follows: Multiply units by units for the *first* figure.

82 Carry and multiply tens by units and units by tens,
54 (adding) for the *second* figure. Carry and multiply
4428 tens by tens for the *remaining* figure or figures. In this
 example proceed as follows:

$$2 \times 4 = 8 = \text{1st figure.}$$

$$(4 \times 8) + (5 \times 2) = 42. \text{ Therefore } 2 = \text{2nd figure.}$$

$$(5 \times 8) + 4 \text{ carried} = 44 = \text{3rd and 4th figures.}$$

By a little practice any one may become as familiar with this rule and as ready in its application as with the ordinary method.

2. To multiply three figures by three figures, proceed as follows:

First.—Multiply *units* by *units* for the first figure.

Second.—Multiply *units* by *tens* and *tens* by *units* for the second figure.

Third.—Multiply *hundreds* by *units*, *units* by *hundreds* and *tens* by *tens* for the third figure.

Fourth.—Multiply *hundreds* by *tens* and *tens* by *hundreds* for the fourth figure.

Fifth.—Multiply *hundreds* by *hundreds* for the remaining figures. Carry when necessary.

913	712	613
123	254	243
112299	180848	148959
4×2		$= 8$
$(4 \times 1) + (5 \times 2) = 14$		$= 4$
$(2 \times 2) + (4 \times 7) + (5 \times 1) + 1 = 38$		$= 8$
$(7 \times 5) + (2 \times 1) + 3 = 40$		$= 0$
$(7 \times 2) + 4$		$= 18$
	Ans. = 180848	

This rule is much shorter than the old method and is just as easily learned. It applies to all numbers.

3. To find the interest of a given sum: Reduce the time to months, and to the number thus found annex one-third of the days, which whole number multiplied by one-half of your principal will produce you the required interest in dollars, cents and mills, at 6 per cent. If days only are given, multiply one-third of the days by one-half of the principal for the required interest at 6 per cent. Note these exercises:

$$\text{\$250 at 6 \% for 8 mo. 6 ds.} = 82 \times 125 = \text{\$10 25.}$$

$$\text{250 at 6 \% for 93 ds.} = 31 \times 125 = 3 88.$$

$$\text{250 at 6 \% for 9 mo.} = 9 \times 125 = 11 25.$$

In some respects this rule is superior to the well-known 60-day method of reckoning interest.

4. To find the rate per cent. of profit when you know the cost and selling prices of your goods: Subtract the cost price from the selling price, and to the remainder annex two ciphers; then divide by the cost price and the quotient will be the rate per cent. profit. Note examples:

$$60 = \text{Selling price.}$$

$$50 = \text{Cost price.}$$

$$24 = \text{Selling price.}$$

$$18 = \text{Cost price.}$$

$$50 \overline{) 1000}$$

$$18 \overline{) 600}$$

$$20 = \text{rate per cent. profit.}$$

$$33\frac{1}{3} = \text{rate of profit.}$$

5. To find the day of the week when the date is known: Divide the years of the century given by 4, to ascertain the number of leap years occurring since the first of the century given, and this quotient added to the years of the century, together with the date of the month, and the *assignment of the month* will produce a number indicative of days, which divided by 7, will give in the remainder the desired day of the week. If there be no remainder the day is always Saturday. The *assignment of the months* is here given:

June + 0	April + 2	Oct. + 3	Nov. + 6	[Leap years.]
Sept. + 1	July + 2	May + 4	Feb. + 6	Jan. + 2
Dec. + 1	Jan. + 3	Aug. + 5	Mar. + 6	Feb. + 5

What day of the Week was May 2, 1813?

1813

$$3 = \text{No. of Leap years in 13 years.}$$

$$4 = \text{Assignment of May.}$$

$$2 = \text{Date of month given.}$$

$$22 \div 7 = 3 \text{ with } 1 \text{ as remainder.}$$

Indicates the first day, viz., **Sunday.**

To find the sum of two fractions:

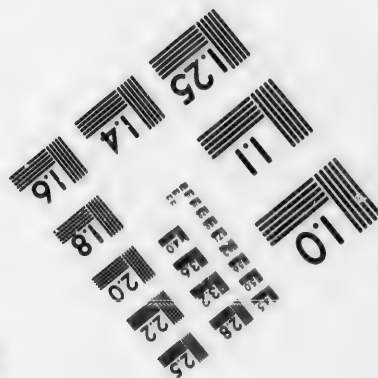
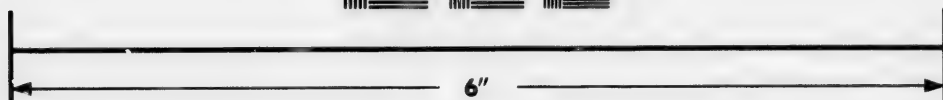
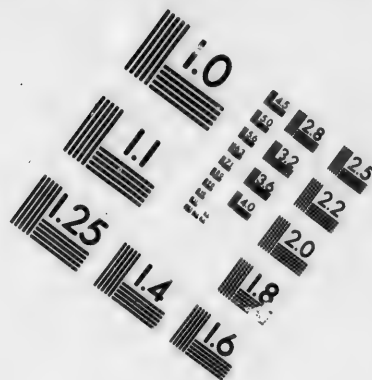
Multiply the numerator of the first by the denominator of the second, and the denominator of the first by the numerator of the second, and add for the numerator of the answer. Multiply the denominators for the new denominator.

$$\frac{\cancel{2}^{\cdot 10}}{\cancel{3}} + \frac{\cancel{4}^{\cdot 12}}{\cancel{5}} = \frac{10+12}{3 \times 5} = \frac{22}{15} = 1\frac{7}{15} \text{ Answer}$$

For the numerator say $2 \times 5 = 10$, and $3 \times 4 = 12$. 10 and 12 are 22, and $3 \times 5 = 15$. In subtraction, subtract after multiplying, instead of adding.

Student's Notes:





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1.4 1.6 1.8 2.0 2.2 2.5 2.8 3.2 3.6 4.0 4.5 5.0 5.6 6.3 7.1 8.0 9.0 10.0 11.2 12.5 14.0 16.0 18.0 20.0 22.5 25.0 28.0 32.0 36.0 40.0 45.0 50.0 56.0 63.0 71.0 80.0 90.0 100.0

1.4 1.6 1.8 2.0 2.2 2.5 2.8 3.2 3.6 4.0 4.5 5.0 5.6 6.3 7.1 8.0 9.0 10.0 11.2 12.5 14.0 16.0 18.0 20.0 22.5 25.0 28.0 32.0 36.0 40.0 45.0 50.0 56.0 63.0 71.0 80.0 90.0 100.0

Easy Explanation of The 60-DAY Interest Method

In what is called the 60-day method, 360 days are considered one year, and 30 days one month. Upon this basis the interest for 60 days, or two months, at any rate, will be $\frac{1}{6}$ of the interest for one year; and when the rate is 6%, the interest for 60 days is 1% or $\frac{1}{100}$ of the principal. Thus the interest of \$247 for 60 days at 6% is \$2.47

Find the interest of \$1728 for 80 days at 6%.

\$17	28 = interest for 60 days. Cut off two places.
5	76 = interest for 20 days. $20 = \frac{1}{3}$ of 60.
23	04 = interest for 80 days.

By many examples labor can be saved by having the time and principal change places. Thus, instead of finding the interest of \$600 for \$149 days find the interest of \$149 for 600 days. The results will be identical. — Any number of days can be divided into convenient parts. Thus, to find the interest of \$158 days, we could take twice 60 or 120; then 30, which is $\frac{1}{2}$ of 60; then 5 which is $\frac{1}{6}$ of 30 then 3 which is $\frac{1}{10}$ of 30. — Add one cent when the fraction is $\frac{1}{2}$ or more.

— Note the examples on the opposite page. —

THE 60-DAY INTEREST METHOD:—Examples.

EXAMPLE 1. Find the interest of \$1,260 for 106 days at 6 per cent.

\$12 60 = interest for 60 days. Cut off two places to the right.

6 30 = interest for 30 days. $\frac{1}{2}$ of \$12.60 = \$6.30.

2 10 = interest for 10 days. $\frac{1}{3}$ of \$6.30 = \$2.10.

1 26 = interest for 6 days. $\frac{1}{6}$ of \$6.30 = \$1.26.

\$22 26 = interest for 106 days.

NOTE.—Any number of days can be divided into convenient parts. Thus, to find the interest for 158 days, we would take twice 60, or 120; then 30, which is $\frac{1}{2}$ of 60; then 5, which is $\frac{1}{6}$ of 30; then 3, which is $\frac{1}{10}$ of 30.

EXAMPLE 2.—Find the interest of \$2,340 for 3 mons. 27 days, at 7 per cent.

\$23 40 = interest for 60 days, or 2 months.

11 70 = interest for 30 days, or 1 month.

7 80 = interest for 20 days. $1-3$ of 60 = 20.

2 34 = interest for 6 days. $1-5$ of 30 = 6.

39 = interest for 1 day. $1-6$ of \$2.34 = 39.

\$45 63 = interest for the given time at 6 per cent.

7 61 = interest for the given time at 1 per cent.

\$53 25 = interest for the given time at 7 per cent.

NOTE.—Add 1 cent when the fraction is $\frac{1}{2}$ or more.

NOTE.—To find the interest at 8 per cent., add $\frac{1}{3}$ of the interest at 6 per cent. to itself; at 9 per cent., add $\frac{1}{4}$; at 10 per cent., add $\frac{1}{5}$; at 5 per cent., subtract $\frac{1}{4}$; at 4 per cent., subtract $\frac{1}{5}$; etc.

HOW TO COUNT DAYS.

How many days from Jan. 10 Apr. 13th.

After the 10th, there are 21 days in Jan. which with the 13 days elapsed in April, added to the days of the two intervening months, gives the exact number.

Jan. 21 da.

Feb. 28 "

Mar. 31 "

Apr. 13 "

Ans. 93 "

TO SUBTRACT ANY NUMBER CONSISTING OF TWO FIGURES FROM 100.

Take the first figure from 9, and the second from 10. For example: in subtracting 73 from 100, or in taking 73 cents change out of a dollar, say 7 from 9 and 2, and 3 from 10 and 7, or 27 cents. Practice this rule. It is simple, and will be found particularly helpful in making change.

The "5-4-5" Interest Method

The accurate interest method explained below is now for the first time made public. It is absolutely correct, no matter what the rate or time.

Find interest of \$245 for 64 days at 7 per cent.

$$245 \times 7 \times 64 = 109760$$

5	10.976	
4	2195	= $\frac{1}{5}$ of 10976.
	549	= $\frac{1}{4}$ of 2195.
5	219	= First quotient removed to the right
	44	= $\frac{4}{5}$ of 219.

$\$3.007 = \underline{\text{Interest}}$

Book-keepers will appreciate this short and simple method. — If the principal is dollars only, cut off four places of decimals. — This gives the same result and is much shorter than dividing by 365. — It is not necessary to carry to four places of decimals.

THE CANADIAN INTEREST RULE.

This rule of computing Interest appears in some Canadian text-books, and, though simply a modification of other rules, is worthy of a place in this work. To find the interest on \$724 for 5 1-2 months

$$4 \overline{) 724}$$

$$181 \times 11 = 19.91$$

at 6 per cent., all you have to do is to divide by 4 and multiply by 11. The rule is to divide the principal by 4, and to multiply the quotient by one-third

of the product of the rate by the time in months. Six times 5 1-2 = 33, and one-third of 33 is 11. Apply this rule to a few examples. If the time be expressed in years, multiply one-fifth of the principal by one-half the product of the rate by the number of years, and remove the decimal point one place to the left.

THE DETROIT INTEREST RULE.

A simple rule for accurately computing interest at any given per cent. for any length of time. Multiply the *principal* (amount of money at interest) by the time, reduced to days; then divide this product by the quotient obtained by dividing 360 (the number of days in the interest year) by the per cent. of interest, and the quotient thus obtained will be the required interest. Require the interest of

$$\begin{array}{r} 462.50 \\ .48 \\ \hline 370000 \\ 6 \overline{) 360 \ 185000} \\ 60 \overline{) 222.0000} \quad 3.70 \\ 180 \\ \hline 420 \\ 420 \end{array}$$

\$462.50 for one month and eighteen days at 6 per cent. An interest month is 30 days; one month and 18 days equals 48 days. \$462.50 multiplied by .48 gives \$222.0000; 360 divided by 6 (the per cent. of interest) gives 60, and \$222.0000 divided by 60 will give you the exact interest, which is \$3.70. If the rate of inter-

est in the above example were 12 per cent. we would divide the \$222.0000 by 30 (because 360 divided by 12 gives 30); if 4 per cent., we would divide by 90; if 8 per cent., by 45; and in like manner for any other per cent.

ANOTHER INTEREST METHOD.

To find the interest on a sum of money for any number of days, multiply the principal by the number of days: then for 6 per cent. divide by 60; for 7 per cent. divide by 51; for 8 per cent. divide by 45; for 9 per cent. divide by 40; for 10 per cent., by 36.

Wanamakers Discount Rule

This simple rule is in use in many houses where several discounts are allowed from list prices. Suppose the list price of a piano

$$\begin{array}{r} 100 \quad 100 \quad 100 \\ 25 \quad 20 \quad 10 \\ \hline 75 \times 80 \times 90 = .540000 \end{array}$$

to be \$500 and you allow a discount 25, 20 and 10 off. Subtract each from 100 and multiply and you get .54. $\$500 \times .54 = \270 the agent's price.

The 100 Days Interest Method

$$\begin{array}{r} 6 \overline{) .3648} \\ \underline{.0608} \\ 90 \\ \hline \$5.4720 \end{array}$$

The interest on any sum of money for 100 days at 36% is the sum itself. For one day the interest is $\frac{1}{100}$ of the sum. Now

to find the interest on \$364.80 at 6% for 90 days, you say at

36% the interest is .3648, at 6% it is .0608 and at 90 days it is 90 times .0608 or \$5.47.

NEW METHOD OF AVERAGING ACCOUNTS.

The following rule for averaging accounts is taken from Ropp's Commercial Calculator, a valuable little work: Compute the interest at 12 per cent. on each item from Jan. 1, adding in the time of credit, if there be any; then find the balance of interest, and balance of account, and divide the balance of interest, by *one* month's interest of the balance of account; the quotient will be the time in months and decimals of a month.

Count this time *forward* from focal date if the balance of account and balance of interest are both on the same side; *backward*, if on opposite sides.

Assuming Jan. 1, preceding the earliest date in the account, as the focal date, makes it convenient to find the time. Thus, to Mar. 25 is 2 months, 24 days. To June 1, just five months. To Aug. 6, is 7 months, 5 days, etc.

ILLUSTRATION.

From what date should the balance of the following account draw interest?

Dr.		LEVI BLUMENTHAL.		Cr.
Mar. 25,	To Mdse . .	\$400.00	Apr. 7, By Cash, . .	\$250.00
Apr. 19,	" " . .	300.00	May 1, " " . .	150.00

OPERATION.

Mar. 25, \$400, In. 2 mo. 24 da.	\$11.20	Apr. 7, \$250, In. 3 mo. 6 da.	\$8.00
Apr. 19, 300, " 3 " 18 "	10.80	May 1, 150, " 4 "	6.00
Debit, \$700, In. on Debt.	\$22.00	Credit, \$400, In. on Credit,	\$14.00
Credit, \$400, " " Credit,	\$14.00		
\$300, Bal. of Acct.	\$8.00, Bal. on In.		

The interest on balance of account (\$300) for 1 mo. = \$3; and to produce \$8 (bal. of in.), it will take \$300 ($8 \div 3$) $2\frac{2}{3}$ mo., or 2 mo. and 20 da.

The balance of account and the balance of interest being both on the same side, the time, 2 months and 20 days, must be counted *forward* from the focal date, showing that the balance of account should draw interest from March 21.

If each debt had 30 days' credit, the interest on it would have been reckoned for 1 month more, making it \$29 instead of \$22; the balance \$15 instead of \$8, and the time of credit 5 months, or to June 1, instead of 2 months and 20 days, or to March 21.

TABLE OF TRANSPOSED NUMBERS.

DIFFER-
ENCES.

9	$\left\{ \begin{array}{l} 10\ 21\ 32\ 43\ 54\ 65\ 76\ 87\ 98 \\ 01\ 12\ 23\ 34\ 45\ 56\ 67\ 78\ 89 \end{array} \right.$	The transposition of figures is a frequent cause of errors in proving accounts and balance sheets. This table is founded on the fact that all differences between transposed numbers are multiples of nine. The difference between the figures misplaced is equal to the quotient of the resulting error when divided by nine;
18	$\left\{ \begin{array}{l} 20\ 31\ 42\ 53\ 64\ 75\ 86\ 97 \\ 02\ 13\ 24\ 35\ 46\ 57\ 68\ 79 \end{array} \right.$	thus, $91 - 19 = 72$; $72 \div 9 = 8$;
27	$\left\{ \begin{array}{l} 30\ 41\ 52\ 63\ 74\ 85\ 96 \\ 03\ 14\ 25\ 36\ 47\ 58\ 69 \end{array} \right.$	$9 - 1 = 8$, and the labor of searching for it may be confined to examining those figures the transposition of which would made the difference, as they are the only ones that can cause the error.
36	$\left\{ \begin{array}{l} 40\ 51\ 62\ 73\ 84\ 95 \\ 04\ 15\ 26\ 37\ 48\ 59 \end{array} \right.$	Thus: if the error in the balance-sheet be 81 cents, it is possibly caused by a transposition, and the clerk can first examine the cents column of his books for items of 90 cents, or 09 cents, alone with a strong probability of finding the cause of the error without further revision. Transpositions may occur in any decimal or integer place, and the differences caused thereby are divisible by nine without a remainder; but, beyond this table the numbers ascend in regular progression, each difference increasing by nine, as follows:
45	$\left\{ \begin{array}{l} 50\ 61\ 72\ 83\ 94 \\ 05\ 16\ 27\ 38\ 49 \end{array} \right.$	
54	$\left\{ \begin{array}{l} 60\ 71\ 82\ 93 \\ 06\ 17\ 28\ 39 \end{array} \right.$	
63	$\left\{ \begin{array}{l} 70\ 81\ 92 \\ 07\ 18\ 29 \end{array} \right.$	
72	$\left\{ \begin{array}{l} 80\ 91 \\ 08\ 19 \end{array} \right.$	
81	$\left\{ \begin{array}{l} 90 \\ 09 \end{array} \right.$	
90	$\left\{ \begin{array}{l} 100 \\ 010 \end{array} \right.$	
99	$\left\{ \begin{array}{l} 100 \\ 001 \end{array} \right.$	108 $\left\{ \begin{array}{l} 120 \\ 12 \end{array} \right.$; 117 $\left\{ \begin{array}{l} 130 \\ 13 \end{array} \right.$; 126 $\left\{ \begin{array}{l} 140 \\ 14 \end{array} \right.$; etc.

The quotient of the difference in a regular progression, when divided by nine, gives the figures transposed, thus: $130 - 13 = 117 \div 9 = 13$, which are the figures to be sought for when a discrepancy of 117 is shown; but this will not apply to differences below 81, nor to mixed transpositions. An error divisible by two may be caused by posting an item to the wrong side of the ledger.

TABLE OF TIME, IN DAYS.

The following table gives the exact time, in days, between two dates; thus, required the time from Feb. 10 to Oct. 18, in the same year. Feb. 10 is numbered 41, and Oct. 18 is numbered 291; $291 - 41 = 250$, *Ans.* This includes the last day, but not the first. If both days are taken, subtract 40 from $291 = 251$, *Ans.* When Feb. 29 occurs in a term, count an additional day. The day of the *date* of a note is not included in its term; thus, required the last day of grace of a note dated March 24, at 90 days. March 24 = 83; $83 + 93 = 176 =$ June 25, *Ans.*

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	32	60	91	121	152	182	213	244	274	305	335
2	33	61	92	122	153	183	214	245	275	306	336
3	34	62	93	123	154	184	215	246	276	307	337
4	35	63	94	124	155	185	216	247	277	308	338
5	36	64	95	125	156	186	217	248	278	309	339
6	37	65	96	126	157	187	218	249	279	310	340
7	38	66	97	127	158	188	219	250	280	311	341
8	39	67	98	128	159	189	220	251	281	312	342
9	40	68	99	129	160	190	221	252	282	313	343
10	41	69	100	130	161	191	222	253	283	314	344
11	42	70	101	131	162	192	223	254	284	315	345
12	43	71	102	132	163	193	224	255	285	316	346
13	44	72	103	133	164	194	225	256	286	317	347
14	45	73	104	134	165	195	226	257	287	318	348
15	46	74	105	135	166	196	227	258	288	319	349
16	47	75	106	136	167	197	228	259	289	320	350
17	48	76	107	137	168	198	229	260	290	321	351
18	49	77	108	138	169	199	230	261	291	322	352
19	50	78	109	139	170	200	231	262	292	323	353
20	51	79	110	140	171	201	232	263	293	324	354
21	52	80	111	141	172	202	233	264	294	325	355
22	53	81	112	142	173	203	234	265	295	326	356
23	54	82	113	143	174	204	235	266	296	327	357
24	55	83	114	144	175	205	236	267	297	328	358
25	56	84	115	145	176	206	237	268	298	329	359
26	57	85	116	146	177	207	238	269	299	330	360
27	58	86	117	147	178	208	239	270	300	331	361
28	59	87	118	148	179	209	240	271	301	332	362
29	-	89	119	149	180	210	241	272	302	333	363
30	-	89	120	150	181	211	242	273	303	334	364
31	-	90	-	151	-	212	243	-	304	-	365

HOW TO READ A GAS METER.

100 Thousand.

10 Thousand.

1 Thousand.



The second hand goes ten times as fast as the first, the third ten times as fast as the second, etc. As the meter now stands it reads 66,700. This taken from the state of the meter last month will tell you the amount burned.

MISCELLANEOUS HINTS AND HELPS.

A number is divisible by 2 when the last digit is even.

A number is divisible by 4 when the last two digits are divisible by 4.

A number is divisible by 5 when the last digit is 0 or 5.

A number is divisible by 3 when the sum of its digits are divisible by 3.

A number is divisible by 9 when the sum of its digits is divisible by 9.

The product of every three consecutive numbers is divisible by 6.

The difference between any number and its square is an even number.

Square numbers never end in 2, 3, 7, or 8.

The product of any four consecutive numbers + 1 is a square number.

The sum of any fraction and its reciprocal cannot be less than 2.

Odd numbers multiplied together always give an odd number.

The product of any four consecutive numbers is divisible by 24.

Any number consisting of three equal digits, as 111, 222, 333, etc., is divisible by 37, and the quotient is the sum of the digits.

Eleven is an exact divisor of $10 + 1$, of $100 - 1$, of $1000 + 1$, etc., 7, 11, 13, and their multiples 77, 91 and 143 are exact divisors of 1001 and its multiples.

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Part III.

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Printers and Bookbinders, Toronto.

HOW TO WRITE A GOOD BUSINESS LETTER.



Can you write a good business letter? Can you convey the desired meaning, clothe your thoughts

in courteous, business-like language, spell words correctly, write neatly, and dash off the letter in a few moments? If you can you will never need to *apply* for a situation. There are hundreds of business houses looking for just

such as you. We venture to say that there is a greater demand for first-class correspondents than for any other kind of educated office labor. Of course, to be a good correspondent, one must be able to think intelligently and display business tact, for one's letter is simply a photograph of one's thought and purpose. Business letters should be clear, explicit and concise. There should be nothing defective, nothing superfluous, nothing ambiguous. "While the manner of arranging the various parts of a letter is unimportant, when the document is considered merely as a medium of communication, certain forms of arrangement have by common consent been accepted as reasonable, orderly and in good taste; and since forms which are in harmony with the best usage may as readily be employed as others not so justified, and as such accepted forms are easily learned, it seems eminently proper that every student should be taught and encouraged to employ only these."

The simple punctuation marks in writing correspond to pauses in good reading. In all your reading, note carefully capital letters and how they are used.

Kinds of LETTERS

A **letter** is a written communication from one person to another. Circumstances determine its form, length, style and general tone. The primary idea of a letter is **conversation at a distance**. If this be kept in mind, one can scarcely fail to write appropriately, if one can converse properly; for a letter may be familiar or reserved, jocular or dignified, according to the relations between the writer and the person addressed. The chief essentials in **letters of friendship** are, that the style be simple and the manner of expression natural. It is the incidents of every-day life, the little things, the *home chat* that make a *friendship* letter interesting. **Letters of courtesy** include invitations, acceptances, letters of congratulation, of condolence, of introduction and of recommendation. All of these are more formal in style than letters of friendship. A **personal business letter** is a letter on personal or private business. This class includes the letters of merchants, manufacturers and others in connection with their business, either as individuals or as business firms. An **official business letter** is one written either by a public officer or to him, on business pertaining to his office. This class includes the correspondence of the various officials of a city, state or nation. **Public letters** embrace news letters, or communications to newspapers and essays or reports addressed to some person or persons. Frequently a writer publishes a letter addressed to some prominent person, criticising his opinions or his actions, or putting to him a number of formal questions with the view of receiving a published reply. This is usually called an **open letter**.

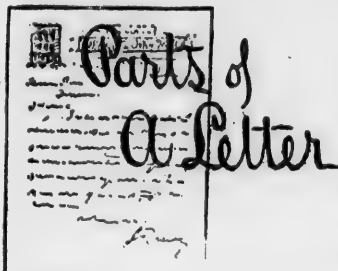
Neatness and correctness are essential in letter-writing of all kinds. Nothing excuses a carelessly written letter.

THREE IMPORTANT NOTES.

Instant. The abbreviated form is *inst.* In correspondence this word means *present month*.

Ultimo. The abbreviated form is *ult.* or *ulto.* In correspondence this Latin word means *the month last past*.

Proximo. The abbreviated form is *Prox.* In correspondence this Latin word means *next or coming month*.



The parts of a letter are the **heading**, the **address**, the **salutation**, the **complimentary close**, and the **signature**. The **heading** should show where and when the letter was written. It should include the name of the *post office* where the letter is supposed to be mailed, and if it is a small place, the name of the

county and state should also be given. If an answer is to be sent to the place from which the letter is written, the heading should give in full the address of the writer. The name of the place should be followed by the date, which includes the name of the month, the day of the month, and the year. **All letters, notes and cards should be dated.** There are towns and cities in different states and provinces which have the **same name**. In writing from any such, even though it be a large and well-known place, be careful to add the name of the state or province. If you live in a city you should **always give your street and number**, or post office box, no matter how well acquainted with your address you may suppose your correspondent to be. If your letter is written from a prominent hotel or boarding-school, or other institution, **the name of the hotel**, or institution, should occupy the first line of the heading. Every important part of the heading should begin with a **capital letter**. A period should follow every abbreviation, and the parts should be separated by commas. A period should be placed at the end of the heading. The **heading** should be placed in the upper right-hand corner of the sheet of paper, and should begin about one inch and a half from the top of the sheet. It may occupy a part of a line, of two lines, or of three lines.

(SHEET OF PAPER.)

Buffalo, N. Y., Oct. 9, 188

The **address** shows to whom the letter is written, and to what place it should be sent. It should include the *title* and *name* of the

SKELETON LETTER.

		 THE HEADING.	
..... THE ADDRESS.			
..... THE SALUTATION.		 THE BODY. THE BODY THE COMPLIMENTARY CLOSE.	
		 THE SIGNATURE.	

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person or firm, and their post-office address in full. The address may be placed at the beginning or at the close of the letter. In

(SHEET OF PAPER.)

*50 Bromfield St.,
Boston, July 20, 1888.*

business letters the best place is at the beginning, and in social letters at the end. The address is omitted from letters between intimate friends. The address, if placed at the beginning of a letter, should

(SHEET OF PAPER.)

*P. O. Box 397,
Cleveland, O., Dec. 25, 1888.*

begin near the left margin, and on the next line underneath the last line of the heading. **Titles** should not be omitted, but they should be used sparingly. It is generally sufficient to use the most promi-

(SHEET OF PAPER.)

*State Normal School,
West Chester, Pa., Feb. 9, 1888.*

nent title of the person addressed. To have a neat appearance the address should not occupy more than two lines. The **salutation** is the greeting at the beginning of the letter,—the “Dear Sir,” the “My dear brother,” and the like, with which it is usual to begin a letter. What the salutation shall be must be determined by the relation between the writer and the person addressed. Our most formal salutations are “Sir” and “Madam.” If we wish to be a little more familiar, we write “Dear Sir,” or “My dear Sir.” Beyond

these is a numerous variety of forms that a numerous variety of relations warrant. Between firms the salutation should be "Gentlemen."

(SHEET OF PAPER.)

.....
(THE HEADING.)
.....

Dr. Gerrald Ball,
466 Queen St. E., Toronto.
Dear Sir:

The words of the salutation should never be abbreviated. When addressing a **firm** or **business house** the salutation is *Sirs*, or *Dear Sirs*, or *Gentlemen*. Never use the vulgar contraction, *Gents*.

(SHEET OF PAPER.)

.....
(THE HEADING.)
.....

Mr. John Adair,
Denver, Colo.
Dear Sir:

The salutation of letters addressed to **public officers** should be quite formal. In such letters the *heading* is sometimes put at the close.

(SHEET OF PAPER.)

*To the President of the Senate and the
Speaker of the House of Representatives.
Gentlemen:*

(SHEET OF PAPER.)

(THE HEADING.)

*Messrs. A. S. Barnes & Co.,
New York City.
Gentlemen:*

A **married lady**, or an elderly unmarried lady, is addressed in a business letter as *Madam*, *Dear Madam*, or *My dear Madam*.

(SHEET OF PAPER.)

(THE HEADING.)

*Mrs. J. E. King,
27 Jefferson St., St. Louis.
Dear Madam:*

In addressing a **young unmarried lady** the salutation is often omitted. Sometimes the address is omitted.

(SHEET OF PAPER.)

(THE HEADING.)

*Dear Miss Adair:
I received your kind favor
last evening, and the book came by this
morning's mail, etc.*

(SHEET OF PAPER.)

THE HEADING.

*Miss Minnie Cullen,**Zanesville, O.**We beg to acknowledge the
receipt of your, etc.*

The **body of a letter** may begin one line or space below the salutation, and just where the salutation closes ; or it may, if the address be long, begin in the same line and immediately following the salutation. A *margin* of one-half an inch should be left down the left-hand side of the sheet. When a new *paragraph* is necessary, it should begin directly in a line with the first word of the body of the letter. A new paragraph should be made whenever one begins to write about a new subject. In acknowledging the receipt of a business letter, give the date of it. The **complimentary close** follows the body of the letter, and immediately precedes the signature. The closing words should not be more familiar than the salutation, and like the words of the salutation, should depend upon the relation between the two persons. *Respectfully yours, Very respectfully yours, Very truly yours, etc.*, are the usual closing words of formal or business correspondence. Letters of friendship, or letters among very intimate friends, admit of less formal terms ; as *Very sincerely yours, Your dutiful son, Your affectionate nephew, etc.* The **first word only of the complimentary close should begin with a capital**. Never abbreviate the terms or write "*Yours, etc.*" The **signature** follows the complimentary close, on the next line and to the right. It should end near the right-hand side of the sheet. The signature should be written very plainly, for no matter how familiar your intimate friends are with your dashing ink lines, your business correspondents may have considerable difficulty in associating them with your printed name.

HINTS & HELPS.

For Corresponding Clerks

Abbreviations. Avoid abbreviations such as "&" for "and," "X Roads" for "Cross Roads," "Balt." for "Baltimore," "Phil." for "Philadelphia," "C'wood" for "Collingwood," "Wms,town" for "Williamstown," "Jns'town" for "Johnstown," "ad." for "adv." or "advertisement," etc.

Address. Write your name and address plainly and in full. What you intended for "N. Y." may look to the corresponding clerk who reads your letter like "N. J." Contractions of names should be made distinct.

Anonymous Letters. No gentleman or lady ever writes an anonymous letter.

Application. In applying for a situation by letter, be careful to write neatly and in a good business hand. Let your letter be short and terse, respectful and not servile. State your qualifications and experience modestly and clearly, and in as business-like a tone as possible. Answer all particulars required by the terms of advertisement. The originals of testimonials should not be sent with a letter applying for a situation. Copy each testimonial on a separate sheet, mark "(copy)" at the top of the page, and enclose with your letter. As a general rule, the shorter the application the better.

Both Sides. In business correspondence, it is better not to write on both sides of the paper. Letters so written are not easily transferred to a copying-book.

Brevity. The subject matter of a business letter should be stated as briefly as is possible consistent with perfect clearness. Short sentences and words are preferable to long ones.

Business Letters should be clear, brief, direct and gentlemanly. Everything irrelevant to the business in hand should be excluded. If necessary, reference should be made to former correspondence. Every business man should keep an exact copy of all business letters which he mails.

Captain. When this title is used instead of "Sir" in the salutation or complimentary close, it should not be abbreviated. The same rule applies to "Colonel" and other titles.

Carelessness in spelling, blunders in construction, or want of taste in the expression of thought, often interfere with success in the business world. The business character of a man is judged of by strangers from his correspondence.

Condolence. A *Letter of Condolence* is a letter sympathizing with a friend who has suffered loss or bereavement. Great care should be taken in the writing of such letters.

Copying Letters. Copies of all letters containing matter of importance should be preserved. A *fac simile* made with a letter press is a most satisfactory means of preserving a copy of a letter.

Corporation. A petition or memorial to a Board of Aldermen, or or other officers, may begin with "Gentlemen," and close with "All of which is respectfully submitted."

Date. The date consists of the month, the day of the month, and the year. It is not necessary to write the forms 1st, 7th, 23rd, etc.; the figures are sufficient. Note that the proper contractions of the ordinals ending in 2 and 3 are 2d, 3d, 22d, 23d. In acknowledging the receipt of a business letter, give the date of it.

Dear Sir. This salutation is more intimate than "Sir," and not so officious. It is preferable to "Sir" for ordinary business correspondence.

Degrees. Scholastic degrees—M.D., D.D., M.A., A.B., etc., are always abbreviated in addresses. Titular addresses of high rank, however, such as President, Governor, Archbishop, etc., should never be abbreviated in such use. It is not in good taste to address a man as "Mr. Charles King, M.A.," or "Charles King, Esq., M.D." Titles are multiplied on title-pages and catalogues, but not more than one should appear on letters. "Esq.," as an honorary title, is going into disuse.

Doctor. Doctors of Divinity may be addressed "Rev. Dr." or "Rev. _____, D.D." Doctors of Medicine may be addressed "A _____ B _____, M.D." or "Dr. A. _____ B _____."

Don't. Don't write illegibly. Don't write crooked. Don't use red, or violet, or green ink. Don't use fancy note paper. Don't place a "bill poster" advertisement on either envelope or letter paper. Don't use a monogram on your envelope. Don't direct an envelope wrong side up. Don't use postals for private correspondence. Don't write like Horace Greeley. Don't flourish. Don't write "My dear Sir" with a capital D for "dear." Don't write "&" for "and." Don't use slang. Don't cross your letter. Don't grumble on paper.

Envelope Address. Where the post-office is in the city, it is generally necessary to give the number and the street. Sometimes it is desirable, in order to facilitate delivery, to give the part of the house, as "Room 12, 650 Chestnut St., Philadelphia. Avoid the following error and others similar: "205 Broadway St." Here "way" conveys the idea of street.

Envelopes. In social correspondence, the envelopes, like the paper, should be white and plain, and should correspond to the paper used in size and quality. It is considered bad taste to use colored paper, or other than black ink.

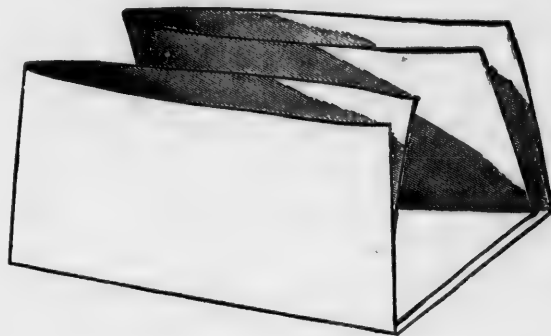
Erasures. Avoid all erasures or blots, even if you have to re-write your letter. Avoid writing with a pencil, or with other than black ink.

Esquire. The correct abbreviation is "Esq.," not "Esqr." or "Esq're." In addresses, this word is accepted as the correct title of a gentleman who has no professional title.

Euphony. Avoid the frequent repetition of the same word, or of similar sounds. Be sparing of your *and's*, and *very's* and *so's*. The principal words of a sentence should be placed where they will make the most impression.

Figures. Except in writing dates and sums of money, do not use figures in the body of a letter. For example, it would be considered an error to write, "We have had 4 orders for this article already."

Folding. A letter-sheet should be folded from the bottom forward, bringing the lower edge near the top, so as to make the half length a little shorter than the envelope, and then break the fold. Next fold twice the other way, beginning at the left edge, folding towards the



right. Measure these folds also, so as to fit the envelope. A note-sheet should be folded twice, from the bottom forward. When the envelope is nearly square, a single fold of the note-sheet is sufficient. If you want to make a good letter look slovenly, endeavor, by folding down a half inch at each end, to make it fit an envelope an inch too short.

Friendship. Matters of friendship, and private confidence, should never be mentioned in business communication.

Hasty Replies. "Many perplexing and provoking matters arise in the correspondence of a business house, and a judicious correspondent will be constantly on his guard lest he write something in haste, and perhaps in anger, that he would afterward deeply regret. It is wise to consider carefully and act deliberately. When constrained to write severe things, the letter should be permitted to lie over night for review before mailing. If this be done, it is probable that the character of the letter will be changed radically, or perhaps it will remain unwritten. Many letters which would seem ample provocation for a sharp reply, had better go unanswered. This advice is especially commended to

those seeking trade. Kind words make and hold friends, while hasty or vindictive words alienate friends and business."

Hostess. Be sure to write to a friend, or hostess, after making a visit at her house, thanking her for her hospitality. Don't wait a fortnight before doing so.

Initials. Many persons, in subscribing their name, have a fancy for giving only initials of their first, or given name; thus, R. King, J. T. Jones. No one can determine from these signatures whether the writer is Reuben or Rebecca, James or Juliet, and the person addressed, who is often a stranger, is at a loss whether to send his reply to Mr. King, or Miss King, Mr. Jones, or Miss Jones. This is especially the case if the penmanship has the appearance of a lady's hand.

Introduction. *Letters of Introduction* are used to introduce one friend to another who lives at some distance. Do not give a letter of introduction to any one with whom you are not thoroughly acquainted. Such letters are generally left unsealed, and the name of the person introduced should be written on the lower left-hand corner of the envelope, in order that the persons on meeting, may greet each other without embarrassment.

Invitations. Invitations are usually written in the third person. They are short and occupy the middle portion of a double sheet of note or invitation paper. The words "present their compliments" are now usually discarded from notes of ceremony.

Junior. The abbreviation of this word is "Jr." or "Jun." Its place is immediately after the name, as "William Brown, Jr., Esq." It never takes the place of any title. The same rule applies to *Senior*. Both words should begin with capitals.

Language. A letter is but a talk on paper. The style should depend upon the terms of intimacy existing between the parties. To superiors, be respectful; to inferiors, courteous; to friends, familiar; to relations, affectionate. Write as you are in the habit of thinking or speaking, only be more particular in the selection of your words than in conversation. Short sentences are most suitable for business correspondence. In social correspondence, do not be afraid to write about little things. Things worth talking about are worth writing about.

Materials. Use the best stationery you can afford, and see that your letter paper and envelope correspond in quality and color. The size of the letter sheet ordinarily used in business, is either what is termed note size, being 5 by 8 inches, or letter size, about 8 by 10 inches.

Mesdames. The contraction of this word is *Mmes.* It is the plural of the French *Madame*, and is used in English, as the plural of *Mistress* (Mrs.). Any number of spinsters associated in a business firm, in a committee, or in any other co-operative body, should be addressed with the pro-title "Misses"; but if any one of them rejoices in the title "Mrs.," then the pro-title of the body must be "Mmes." The salutation in any case should be "Ladies."

Miss. In youth the masculine of the word is *Master*, and in adult age *Mister* (*Mr.*). This word in any form should never be used as the salutation of a letter. Not like *Sir*, *Madame*, and *General*, it cannot be used alone. In addressing a young lady, one must know either her given name or her surname; and with these one may say "Miss Mary" or "Miss Brown." In writing to strangers a woman should, in her signature, indicate not only her sex, but also whether she is a "Miss" or a "Mrs."

Mister, Messrs. The plural of "Mr." and of "Esquire," is "Messrs." This is a contraction of the French *Messieurs* (Gentlemen). We say "Mr. President," "Mr. Speaker," "Mr. Chairman," "Mr. Editor," etc.

Mistress. This, the pro-title of a married woman, is almost always used in the abbreviated form, "Mrs." and is pronounced *misses*. It is sometimes coupled with a husband's title, as "Mrs. Dr. Stone." This use is convenient, but questionable.

Mistakes. Five million mistakes are made every year in envelope addresses, for that number of letters go astray. A Boston publisher says; "A dozen times a day we search for the name of the post-office or state, in the postmaster's stamp on the envelope, and we frequently receive letters without any signature whatever. Occasionally," he says, "we find in our mail an envelope containing money but no letter." The experience of this publisher is the experience of every publisher in the country. *Don't make mistakes.*

Money. In opening letters containing money, the latter should be immediately counted, and the sum noted. Acknowledge the receipt of money promptly.

Nota Bene. The abbreviation is N. B., and the meaning "note specially." This, like the postscript, follows the completed letter.

Officials. In letters to ordinary officials, it is customary to begin with the salutation "Sir," and close with "I beg to remain your obedient servant," or "I have the honor to be, Sir, your obedient servant."

Official Letters. In official correspondence, it is better to address the office than the officer, as "To the Minister of Agriculture, etc., Sir," instead of "To the Hon. B ——— K ———, Minister of Agriculture, etc."

Official Titles. In strictly official letters, it is proper for the writer to place his official designation after or below his signature, thus forming part of his signature.

Orders. In ordering goods, complete directions, as to the method of shipment, should always be given. In advising of the shipment of goods, say "Shipped via N. Y. C. Merchants' Despatch," or whatever the railway and transportation company may be.

Order Letters. In ordering goods or any article state explicitly the amount, kind, etc., and what terms wanted. Always state the amount of money you send and how you send it.

Paging. If the letter consists of more than one sheet, the sheets should be arranged in order and paged carefully.

Paper. For social correspondence, four-page *note* size is preferable. Business men generally use single sheets *letter* size, with printed business headings. Use plain paper, either ruled or unruled. The paper should be, whether letter or note size, the best that the writer can afford. Let it be white, or with the faintest tinge possible of blue or cream. Unruled paper is to be preferred. The names of the various kinds of paper in general use are *Legal-cap*, *Bill-paper*, *Fools-cap*, *Letter-paper*, *Commercial note*, *Note-paper* and *Billet*.

Paragraph. Many excellent business letters are not divided into paragraphs. Except the subject of the letter is changed entirely, it is not necessary to begin a new paragraph. Note paragraphs in printed matter. They always begin a little to the right of the left margin, no matter where the last paragraph ended. Follow the same rule in your correspondence.

Postage Stamps. The proper place for the stamp is at the top of the envelope at the right margin, in the right-hand upper corner, and above the address. Put on as many stamps as the weight of the letter or parcel demands.

Postal Cards. There is no need of salutation or complimentary close. The economy that resorts to cards need not waste time and two lines on mere civilities.

Postscript. The abbreviation P. S. is usually made use of. The ordinary use of the postscript is to add some after-thought to the letter.

P. O. Except in special instances, it is not necessary to write the letters P. O. after the name of the post-office. The letter, if it reaches the town, is not likely to go to the court-house or jail.

Promptness. Be prompt in answering all letters, but be specially so in acknowledging favors and in business correspondence.

Recommendation. "It ought to be the pride of every man who writes a letter of recommendation to feel that his letter will have weight, because it is known that he recommends only the deserving and the competent, and recommends truthfully."—RAUB.

Return Stamp. Letters about one's own affairs, to other than intimate friends, requiring an answer, should always enclose a stamp to pay return postage.

R. S. V. P. These initials stand for *respondex s'il vous plait*, (answer if you please). They are sometimes written at the lower left-hand corner of invitations.

Salutation. Do not be familiar or presumptuous, in greeting a person who is older, or more learned, or in a higher position than yourself.

Sir. This title may be used a part from the name, while "Mr." must go with the name. The plural is "Gentlemen," not the vulgar contraction "Gents." "Dear Sirs" bears the same relation to "Gentlemen" as "Dear Sir" does to "Sir."

Special Directions. If any special directions are required in connection with the envelope address, they should be put in brackets to indicate that they are not part of the address proper.

Spelling. It is the fault of the English language that we have so many "bad spellers." If you are doubtful of a word, it will be better to look it up rather than make a blot, or a running line, where the letters are questioned. Careful reading, and lots of it, will make a good speller.

Stamped Envelope. Letters about one's own affairs, when requiring an answer, should contain a stamp or a stamped envelope for return postage.

States. The abbreviations of the names of states and provinces should be written with great care. What you mean to be *Me.*, may easily be taken for *Mo.*, and what you are sure is *Md.*, may be read *Ind.*

Style. Paragraph and punctuate carefully. Spell correctly. Write legibly and with care. Avoid blots, erasures, and interlineations. Never economize in paper by writing across lines. In writing to the most intimate friend, a certain degree of attention, both to the subject and the style, is requisite and becoming. It is no more than we owe both to ourselves and to the friend with whom we correspond. A slovenly and negligent manner of writing is a disobliging mark of want of respect.

The President. The preferred form of addressing the President is, *To the President, Executive Mansion, Washington, D.C.*; the salutation is simply *Mr. President.*

Third Person. A note or invitation, written in the third person, should never have the writer's signature attached to it. In replying to a note, written in the first person, it is considered impolite for the one who answers to use the third person.

Titles. The following miscellaneous titles for use in addressing letters or notes of invitation cover the field of ordinary subscriptions: *His Excellency the Governor-General; His Excellency and Mrs. R. B. Hayes; Governor and Mrs. Geo. B. McClellan; Hon. and Mrs. Jas. G. Blaine; Sir and Lady John A. Macdonald; Rev. Dr. and Mrs. T. DeWitt Talmage; Prof. and Mrs. F. H. Anderson; Mr. and Mrs. W. H. Howland.*

HOW TO ADDRESS LETTERS.

Five Million Letters bearing a complete address are missent every year, and eighty per cent. of them are missent because the address is not properly formed. The address on all mail matter should be

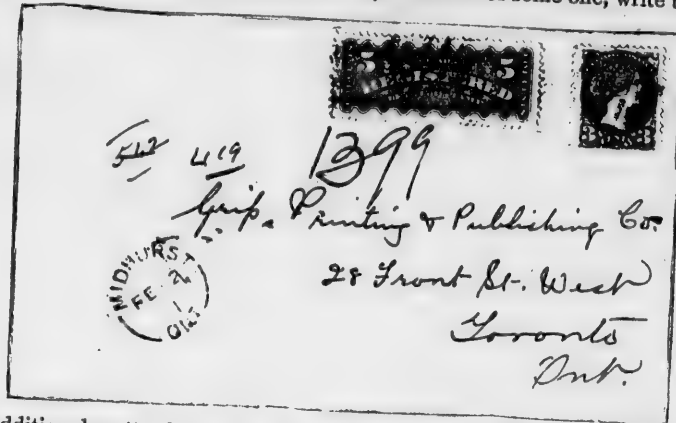


complete enough to distinguish the person for whom it is intended from any one else, and each portion of the address should be distinctly separated from every other portion. Do not write the name of the county

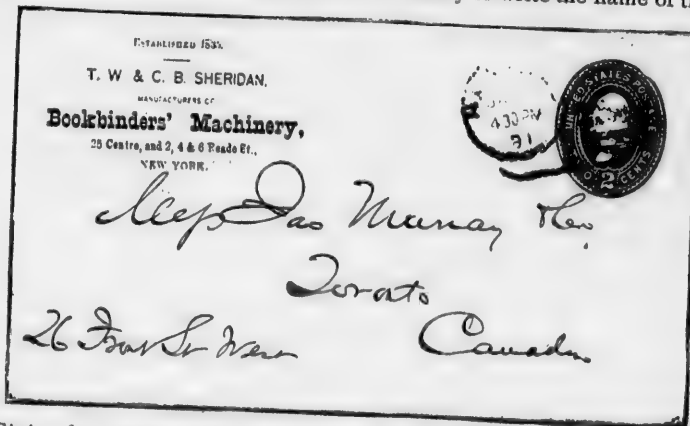


where the postal employees always look for the name of the post office. They always look in that particular place because it is found there in ninety per cent. of the mail. Railway postal clerks have to distribute

many pieces of mail while the train is running from one station to another, and must decide to what place to send a letter in a fraction of a second. When county and post-office are close together, the clerk is almost as apt to take the name of the county for the post-office as the right name. When it is necessary to write the name of the county or the street number or a post-office box, or in care of some one, write the

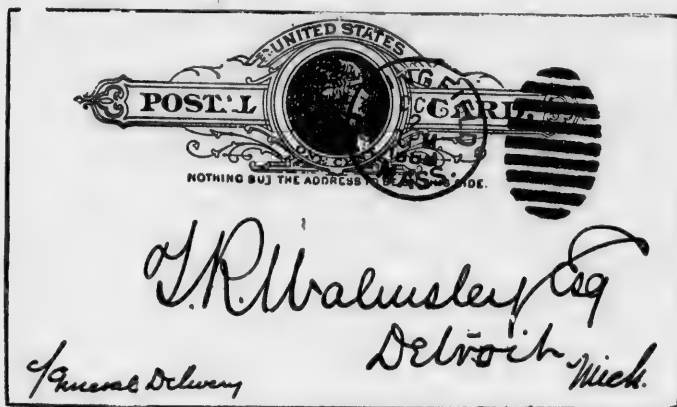


additional matter in the lower left hand corner. Great care should be taken to make this address clear. The penmanship should be distinct and legible, and the address neat and elegant, without ornamentation. Even in the case of large cities, it is necessary to write the name of the



State, for there are five New Yorks, nine Philadelphias, and twelve Bostons in the United States. The county may be omitted in the case of cities. Letters addressed to a city should have, in addition to the post-office, the street number and the street, or the post-office box. Be particularly careful in writing the abbreviations of states. Thus N. Y.

in script might be mistaken for N. J. ; Pa. for Va. ; Cal. for Col. ; Md. for Ind. ; Me. for Mo. ; Mis. for either Missouri or Mississippi, etc. Non-delivered letters are returned to the writers who have their names and post-office printed on the upper left hand corners. Mail intended for people who will be in a place only a day or two, should have "transient" added to the address to distinguish them from permanent residents. If this word, or the word "Personal" be written, enclose in brackets and write in the *upper* left-hand corner. In making these additions, care should be taken to keep them from other portions of the address, and perhaps it is usually best to place them in the lower left



hand corner, above the name of the county, and inclose them in brackets. Although, if the preceding suggestions are complied with, but very little mail will be missent, yet there are many little things liable to occur occasionally and start mail in the wrong direction. Letters that contain but little paper sometimes stick close together, and are handled several times before the under one is noticed and separated, and it possibly may not be noticed till it has been delivered with the upper one to some one who may not be honorable enough to return it to the post-office. Sometimes they find their way into the large unsealed envelopes containing circulars, and may not be discovered until they have been carried hundreds of miles and many hours of time from instead of toward the office of destination. Many letters are deposited daily in the large post-offices for mailing that are sent to the Dead Letter Office at Washington in consequence of non-payment of postage. A little more care in the matter of correspondence would save much annoyance to all persons concerned.

APPLICATION FOR A SITUATION.

224 Church St.

Newton, Mass., Aug. 29, 189—

Messrs. Lamson & Cedar,
Chelsea, Mass.

Gentlemen:

In reply to your advertisement in to-day's "Herald" for a salesman and office assistant, I beg to offer my services.

I was in the employ of the well-known firm of Messrs. D. McCall & Co., for four years, ending July last, when they sold out. I had the third position in their counting-room, where I had considerable experience in book-keeping as well as in miscellaneous office-work, including correspondence. I have not had any experience as salesman, but if my application prove successful, I shall try to give satisfaction. I enclose a testimonial from my former employers, and shall await with some interest, your reply.

Yours very respectfully,

J. E. Boyd.

LETTER OF RECOMMENDATION.

HENRY W. PRICE.

WEBB AND
MITCHELL.

Reading Pa. Dec. 7, 1888

To whom it may concern:

The bearer, Fred W. Rogers, being about to leave our employ, we take pleasure in testifying to his merits as a salesman, the capacity in which he served us. He has been with us eight years, in which time he has invariably discharged his duties with skill and ability. He was punctual, courteous, and reliable.

Wm. A. Mitchell
Jens.

LETTERING ORDERING GOODS.

McGill Normal School, Montreal, Que.

January 19, 1888.

Educational Publishing Company.
Boston, Mass.

Gentlemen:

Kindly send us by American Express,
at earliest possible date, the following books.

- 12 Sutherland's Language Teaching.
- 12 Practical Question Books.
- 24 Easy Picture Stories.
- 14 Stories for Composition.

We thank you for your promptness in
filling our former order. Enclose bill at your very
best rate, and oblige,

Yours very Truly,

Charles Walters, Prin.

STYLES OF PENMANSHIP.

No two business men write alike, and the difference is more decided in the United States than in any other country in the world. The round English hand so much admired by our business men, and of which

We remember with pleasure the satisfactory manner in which you have inserted our advertisements in the past, and trust that our future business relations may prove equally agreeable

Very Truly Yours
J. C. Hyatt

we give two examples here, is universally practised in Great Britain and her colonies, except Canada. Canadian business writing cannot be

It saves both time, labor, and perhaps fruitless expenditure in choosing those best suited to their purposes, and obtaining the best results with the least outlay

We are Yours Respectfully

Dick + Fitzgeralds

distinguished from that to which we are accustomed. Canadian ladies write an angular hand, French, Italians and Germans write a pointed

and convert the consumers of good goods. As to your manner of doing business I consider it commercial like and quite satisfactory

Very truly
Wm. Lloyd Garrison

angular hand with considerable shading. All nationalities are blended here, and the writing is as mixed as the people's. The first illustration

is from the house of J. C. Ayer, of patent medicine fame; the second is from a publishing house in New York. In the illustrations on this page we have fair samples of the ordinary American business penmanship.

*We shall have a new
order ready for you as soon
as you have filled the one
which is now current.*

*Yours truly,
James H. Ayer.*

The fourth is from one of the largest boot and shoe houses in Boston,

*to say that we use them
ourselves.*

*Very truly,
Perry Malouin & Co.*

and the fifth is from the publishers of the Youth's Companion. In all of

*results continue to be satisfactory, and
we never that the same careful and con-
stant attention is given to our orders as
heretofore.*

*Yours very truly
G. C. Merriam & Co.*

these examples the penmanship has been reduced by photographing,

*and the result has been entirely
satisfactory.*

*Very truly,
G. C. Merriam & Co.
Asst. Genl. Manager*

and appears considerably smaller than in the original. G. & C. Merriam & Co., publishers of Webster's Dictionaries, send out letters famous

for neatness. Be careful in signing letters to write your name plainly, the flourish you intended for Samuel Baker may easily be mistaken for Lemuel Barker. Because you know your own signature thoroughly, it does not follow that the business house to which you send an order is

The Farmers of the Western and Northwestern States

*I am, Yours Truly
Chas. B. Famborn
Law Counsel*

as familiar with it. In one of the examples here given, the signature is that of E. St. John, of the Chicago, Rock Island & Pacific Railway Co. The writing, however, is not so easily read as the name when it appears

the good funds which have often attracted our attention.

*Very truly yours
Wells & Richardson Co.*

in print. Large companies frequently, as in the example below, stamp

in your debt have been very satisfactory

Yours very truly
The JOHN WILKINSON CO.

W. S. Conklin

the name of the house, and under it the treasurer or secretary places his signature. The signature of the letter is fully as important as the

a desirable class of customers

Very truly yours,

W. L.throp Company.

address on the envelope. Neatness in penmanship and correspondence has done as much for the promotion of young men as any other qualification.

THE U. S. POSTAGE LAWS.

First Class Matter includes letters and all other written matter, whether sealed or unsealed, and all matter sealed, nailed, sewed, tied, or fastened in any other manner, so that it cannot be easily examined. *Postage on matter of the first class is two cents per ounce or fraction thereof.*

The following are a few specified articles among those subject to first class rates: *Accounts*, whether partly or wholly in writing. *Autograph albums*, containing writing of any kind. *Bank-books*, with entries in writing. *Bank-checks*, when written, whether cancelled or not. *Contracts*, wholly or partly in writing. *Copies*, made by type-writer or caligraph, or other similar process. *Copies of manuscript* for publication, when not accompanied by proof-sheets or corrected proofs of same. *Deeds*, wholly or partly in writing, whether executed or unexecuted. *Designs*, or plans drawn or sketched by hand. *Diaries*, with entries in writing therein. *Drafts*, wholly or partly in writing, signed or unsigned, cancelled or uncanceled. *Envelopes*, with written addresses thereon. *Insurance policies*, wholly or partly in writing, and applications therefor. *Invitations*, wholly or partly written. *Letters*, whether written or printed (except circulars), and whether written by hand, type-writer, caligraph or other similar process. "Old letters," whether sent singly or in a bulk. *Manuscript matter*, maps, music or other manuscript designed for publication, unless accompanied by proof-sheets or corrected proofs. *Packages*, when sealed or sewed or otherwise closed against inspection. If one full rate be paid they will be forwarded, rated up with the deficient postage. If less than a full rate be paid, the package will be treated as a short paid letter. *Printed letters*, not bearing internal evidence of being sent to several persons in identical terms. *Promissory notes*, wholly or partly in writing, signed or unsigned. *Receipts*, whether wholly or partly in writing, except receipts for subscription to, and enclosed with, second-classed publications. *Stenographic* or short-hand notes. *Telegrams*, when offered for mailing are letters, and not to be receipted for unless registered. *Pictures, prints*, when matter is written thereon other than the name of the sender.

Postal Cards. Postal cards issued by private parties are subject to letter rates when they contain any written matter in addition to the *date and address*. An unclaimed postal card is not returned to the writer, even though his address is given upon it, but is sent to the Dead-Letter Office. Postal cards that have been split open and written upon the inside are not mailable. Postal cards are handled with as much care and promptness in the matter of *dispatch and delivery* as though they were letters, even though the matter thereon is printed. A postal is regarded as unmailable if it has anything pasted or attached to it, but it can be forwarded if sufficient amount of postage is affixed. A postal card is not mailable with any writing or printing on the address side except the *address*. Postal cards are never returned to writers from

the office of address, when undelivered, and printed or written request upon the *address side* to so return it in case of non-delivery, renders it unavailable, *except at letter rates*.

Drop Letters. Drop letters require postage at the rate of two cents for each ounce or fraction thereof at letter-carrier offices, and one cent at all other offices. When deposited in a post-office without stamps affixed, they are not subject to double rates, but may be delivered upon the payment of the full single rate thereon. A request for the *return* of a local or drop letter to the writer at some office other than the one at which it was mailed, if uncalled for, cannot be respected unless one full rate of postage has been paid thereon. There is no difference between regular and "drop" rate on third or fourth class matter.

Second Class Matter embraces all newspapers and other periodical publications within the conditions named in the next paragraph. The postage on second class matter, when mailed from the office of publication is **one cent per pound**.

First, it must be regularly issued at stated intervals, as frequently as four times a year, and bear a date of issue. *Second*, it must be formed of printed paper sheets, without board, cloth, leather or substantial binding, such as distinguish printed books for preservation from periodical publications. *Third*, it must be originated and published for the dissemination of information of a public character, or devoted to literature, the sciences, arts or some special industry, and having a legitimate list of subscribers. Provided, however, that nothing herein contained shall be so construed as to admit to the second class rate regular publications designed primarily for advertising purposes, or for free circulation, or for circulation at nominal rates. Second-class mail-matter, can have no advertising sheets, notices, memoranda or circulars enclosed therein. All advertisements in magazines must be *Permanently* attached thereto by binding, printing, pasting, or otherwise, and must be of uniform size with the pages of the publication. Maps, diagrams, or illustrations which are referred to in the publication, or form a necessary part thereof, are admissible. There can also be enclosed in the paper, but they cannot be mailed separately, supplements, with the name of the paper they supplement and date of issue. There may also be enclosed bills or receipts covering subscription (not for advertising), on which the number and names of papers enclosed may be designated, or orders in blank for subscription (without additional matter) to be filled up and returned by the addressee. A supplement and order, bills, receipts, etc., cannot be combined in one. Any other addition to a regular publication than those indicated above, subjects the whole to higher rates of postage. *Sample copies*, marked sample or specimen on the wrapper or paper itself, either singly or in quantity, may be sent by mail to one address, to any reasonable amount, and as often as desired, by the publishers, if not sent continuously to the same names, or in such quantities as compared with paid subscriptions as to render the price of the paper nominal, or to names furnished by advertisers. Second class matter must not only disclose the name of the publisher or editor, but it must also have a known office of publication, where the business of the paper or magazine is transacted. A publication cannot be admitted at the pound rate when it is manifest from its contents that subscriptions thereto are not made because of its value as a news or literary journal, but because of offers of merchandise made as an inducement for subscription. The value of subscription price being offered to the subscriber in something else than the publication, the subscription must be deemed at a "nominal" rate, and

postage charged at *third-class* rates. Upon the wrapper of second-class mail-matter there may be printed or written instructions to the postmaster at the office of delivery, to notify the publisher of non-delivery, and the amount of postage required for the return of the publication, and, in the case of sample copies, instructions to deliver to some other person, if the person addressed cannot be found, or refuses to take the matter. No printing is allowed on the wrappers of second-class mail-matter, except the name and address of the office of publication, publisher or sender, the title of the publication, the words "sample copy," the index figures of subscription books, and date subscription ends. Weekly papers of the second-class, except sample copies, published in a place where there is a letter-carrier office, can be mailed for local distribution by carriers, or points, outside the city, at the rate of one cent for each pound. Publications of the second-class, other than weekly papers, and sample copies of weekly papers, published where there is a letter-carrier office, must be paid for by postage stamps affixed at the rate of one cent for each paper, or on each periodical not exceeding two ounces in weight, or two cents on each periodical if weighing over two ounces, if they are to be delivered by carrier in the city of publication. If they are to be delivered through the lock boxes, or through the general delivery, they can be mailed at pound rates. Weekly papers of the second-class can be distributed in the country where *printed and published*, free, provided they are not to be delivered at letter-carriers' offices or distributed by carriers.

Third Class Matter embraces printed books, pamphlets, circulars, engravings, lithographs, proof-sheets and manuscripts accompanying the same transient newspapers, and in general all miscellaneous printed matter. The limit of weight for mail matter of this class is *four pounds*, except in the case of single books exceeding that weight. The rate of postage is **one cent per two ounces** or fraction thereof.

Printed circulars may bear the date of mailing, address and signature in writing at third class rates. *Reproductions* from originals by the electric pen, papyrograph, etc., are entitled to pass in the mails in sealed envelope as third class matter. The only restrictions upon corrections to *proof-sheets* is that everything written must be part of the publication and not contain references to business or other matters. *Photographs* containing no writing other than the name of the sender, are third class matter. A *circular* does not lose its character as such when the date or the name of the sender is written thereon. *Packages* of third class matter when sent in bulk to postmasters to be distributed to different persons, must be pre-paid at regular rates, and then the "drop" rate added at the office of delivery, all to be paid by postage stamps affixed. Blank or printed *postal cards* may be enclosed in third class matter for reply without subjecting the package to a higher rate.

Fourth Class Matter embraces photographic and stereoptic views, photograph albums, reproductions from solar process, envelopes with or without printing, blank bills, letter heads, bill heads, blank cards, visiting or playing cards, address tags, labels, paper sacks, wrapping paper with printed advertisement thereon, and blanks of any kind, are rated as fourth class matter. This class includes, also, all mailable merchandise. The rate of postage is **one cent per ounce** or fraction thereof.

Card-board and other flexible material, flexible patterns, envelopes, maps mounted, merchandise, models, sample cards, samples of ores, metals, minerals, seeds, cuttings, bulbs, roots, scions, original paintings in oil or water colors, and any other matter not included in the first-second or third classes, and which is not in its form or nature liable to

destroy, deface or otherwise injure the contents of the mail-bag, or harm the person of any one engaged in the postal service, are rated as fourth class. Such matter may have to each separate article a label or tag attached, on which there can be printed one mark, name, number or letter for the purpose of identification, and only one. If the matter be a sample sheet of cloths or fruits, and has on it a number of samples, each sample may be numbered by pen or pencil as above, or the whole sheet may be designated by one mark, name, number or letter for the purpose of identification. All matters of this class are subject to examination. The limit of weight is *four pounds*. *Letter rates* must be charged upon all third and fourth class packages if they are so wrapped that they cannot be examined without destroying the wrapper. Postmasters are expected to exercise *care* in receiving such packages for mailing so that the sender may know the rate chargeable and the full amount due thereon. Postmasters are not permitted to receive closely wrapped and tied packages and accept the statements of the senders as to their contents; that is, unless he charges first-class rates thereon. If he does accept such matter without due examination and *registers* it and it is afterwards found to contain matter belonging to a higher grade, *he is charged up with the deficiency*.

Special Delivery. The special delivery system has been extended to every post-office in the United States, and embraces every class of mail matter. The special delivery *stamp* must be in addition to the lawful postage, and letters not prepaid with at least one full rate of postage, in accordance with the law and regulations, must be treated as held-for-postage, even though it bear a special delivery stamp. *Registered letters* will be entitled to immediate delivery, the same as ordinary letters when bearing a special delivery stamp in addition to the full postage and registry fee required by law and the regulations. Special delivery letters will be delivered by *messenger* within a radius of one mile from the post-office. If a letter bearing a special delivery stamp is directed to an address beyond one mile from the post-office, such letter need not be specially delivered, unless the delivery can be made to the person addressed within the limits. The *hours* within which immediate delivery is made are from 7 A. M. to 7 P. M., and further until the arrival of the last mail, provided that such arrival be not later than 9 P. M. This requirement as to the hours of delivery does not necessarily extend to the transaction of any other postal business after the usual office hours. For every special delivery article delivered the postmaster must take a receipt from the party receiving it. Special delivery *stamps* are to be sold by postmasters in any required amount and to any person who may apply for them, but they can be used only for the purpose of securing the immediate delivery of matter. Under no circumstances are they to be used in the payment of postage of any description or of registry fee, *nor can any stamps be employed to secure special delivery*, except the special-delivery stamp. The special-delivery stamp *must be in addition to the lawful postage*, and any article of first-class matter not prepaid with at least one full rate of postage, and any parcel of any other class of matter, the postage on which has not been fully prepaid, in accordance with the law and the regulations, must be treated as held-for-postage, even though bearing a special delivery-stamp.

The Registry System. This is one of the most valuable and important features of our postal system, and should be more liberally patronized by the public. Any article regarded as mailable may be

registered. The fee for registering a letter or parcel is 10 cents, in addition to the regular postage, whatever that may be. For example, to register a simple letter, on which the postage is 2 cents, the entire expense would be but 12 cents. If you desire to register an article of merchandise weighing five ounces, you would have to pay the regular postage of one cent an ounce and 10 cents additional for registering, making 15 cents in all. All articles belonging to the third or fourth-class, presented for registering, must be so wrapped as to admit of examination *without destroying the wrapper*, for if it is not so wrapped, the postage will be charged at letter rates. Two or more letters or parcels addressed to, or intended for, the same person cannot be tied or otherwise fastened together and registered as one. Articles intended for foreign countries included in the Universal Postal Union, may be registered just the same as if intended for this country, and the same fee of 10 cents is charged.

Money Orders. The money-order system was established to promote the public convenience, and to secure safety in the transfer, *through the mails*, of small sums of money. The regulations of the money-order system are very stringent, and postmasters are never permitted to depart from them. After a money-order has once been paid, no matter by whom presented, the Post-Office Department will not be liable for any further claim therefor. In sending a money-order by mail, never inclose it in the same letter with the information regarding it. In making an application for a money-order, be sure and state the given name, as well as the surname, of the person in whose favor it is to be drawn. Whenever it is possible, the correct address—such as street and number—of both the person taking out the order and the person to whom it is to be sent, should be given. Money-orders are never payable on the day of issue. A money-order cannot be drawn for more than \$100, and when a larger amount is desired, additional orders must be obtained to make it up. No one person can secure more than three money-orders on the same office in one day, when made payable to the same payee. When a money-order has been incorrectly drawn, or when the remitter desires to change the place of payment, the postmaster is authorized to take back the first order and issue another, but another fee is exacted on the new transaction. If a new order becomes necessary on account of a mistake made by the postmaster, he is compelled to issue a new one and charge himself with the fee. Postmasters are required to use every precaution to insure the payment of money-orders to the right persons, and are authorized to compel satisfactory identification before paying them. Any money-order office may repay an order issued by itself, *provided the order be less than one year old, and bears not more than one indorsement*; but repayment must be made to the person who obtained the order, except in special cases. The fee for the issuing of the order, however, cannot be refunded. When a money order has been lost, a duplicate will be issued by the Department free of charge. The issue of money-orders *on credit* is prohibited upon the severest penalties; and postmasters are not permitted to receive in payment for money-orders issued by them, any money not a legal tender by the laws of the United States. Checks, drafts or promissory notes cannot be received. The given name of both the remitter and the payee should be introduced into money-orders, as for example, JOHN E. BOYD instead of J. E. BOYD; and married ladies must be described by their own names and not by those of their husbands, as for example, Mrs. FRANCES CLEVELAND and *not* Mrs. GROVER CLEVELAND. When an applicant for a money-order is unable to state the *initials* of the payee, the postmaster is not permitted

to issue the order. An order can be made payable to only one person or firm.

Postal Notes. A postal note, not presented for payment within three months from the last day of the month of issue, becomes *invalid*. To get your money back on a postal note which has *expired*, it is necessary for you to present it at the issuing office and sign an application for a duplicate, to be issued by the Superintendent of the money-order System, Washington, D. C. This will cost three cents. If a postal note is lost or destroyed, *no duplicate can be issued*. This regulation is never departed from. It becomes necessary from the fact that postal notes are all made payable to *bearer*. A postal note is also payable at the office of issue at any time within three months from the date of issue. Postal notes are issued for sums of \$4.99 or less, and the charge is only three cents, no matter what the amount. Never leave the post-office, after procuring a postal note, without first examining it to see if it has been properly filled. Postal notes are payable at any money-order office, no matter on what office drawn.

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